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Chapter I: Trauma

1- Wounds

1. **A wound that is contaminated and is first debrided of non-viable or infected tissue and later closed by direct approximation has been closed by:**
 - a) Primary or first intention
 - b) Spontaneous healing or secondary intention
 - c) Tertiary healing or delayed primary intention
 - d) None of the above
2. **Deep second-degree wounds re-epithelialize from retained keratinocytes in:**
 - a) Rete ridges
 - b) Hair follicles
 - c) Moll glands
 - d) Reticular dermis
3. **Causes of persistence of a sinus include all of the following, except:**
 - a) Specific chronic infection e.g. TB
 - b) Prolonged use of antibiotics
 - c) Foreign body.
 - d) Epithelialization of the cavity
4. **Healthy granulation tissue is characterized by all of the following except:**
 - a) red/ pink granular appearance
 - b) bleeds easily if rubbed due to rich vasculature
 - c) highly tender due to rich nerve endings
 - d) when overgrowing may interfere with epithelization
5. **A patient develops fever after appendectomy for acute appendicitis. Which of the following is most appropriate?**
 - a) Pus in urine
 - b) X ray screen for air under diaphragm
 - c) Look for DVT.
 - d) look for wound infection
6. **Regarding healing, all are true except:**
 - a) Children better than in adults.
 - b) Transverse better than in oblique fractures.
 - c) Impacted better than in distracted fractures.
 - d) Internal better than external fixation.
7. **The proliferation phase of wound healing is characterized by all of the following except:**
 - a) Formation of new capillary buds.
 - b) Proliferation of fibroblasts.
 - c) Deposition of collagen.
 - d) Formation of granulation tissue.
8. **The major cause of impaired wound healing is:**
 - a) Anemia
 - b) Local tissue infection.
 - c) Diabetes mellitus.
 - d) Malnutrition

9. Which of the following statements is true?

- a) Granulation, epithelialization and contraction are seen in healing by secondary intention.
- b) Tertiary intention involves immediate closure of the wound.
- c) A crushed and contaminated wound is best suited for healing by primary intention.
- d) Primary repair of all structures should be attempted in an untidy wound.

10. All of the following statements regarding management of the acute wound are true except:

- a) Bleeding wound should be elevated and a pressure pad applied.
- b) Anesthesia is usually not required in the assessment of wound.
- c) A thorough debridement is essential.
- d) Repair of all damaged structures may be attempted in a tidy wound.

11. Which of the following statements is true?

- a) Scars continue maturing for 3 months.
- b) Suture marks can be reduced by using poly-filament sutures.
- c) The tensile strength of the scar never reaches that of the normal skin.
- d) A hypertrophic scar extends beyond the boundaries of the previous incision.

12. In wound healing epithelialization stage is characterized by:

- a) It starts one week after wound suturing.
- b) The wound has no tensile strength
- c) The wound is full of fibroblasts.
- d) The wound has full tensile strength.

13. The proliferative phase of wound healing is characterized by all the following events except:

- a) Epithelization b) Angiogenesis c) Fibroplasias d) Remodeling

14. The first-line treatment for a keloid is:

- a) Intra-lesional steroid injection. c) Radiotherapy.
- b) Local steroid application. d) Wide excision.

15. The most common site of keloid is the:

- a) Face. b) Leg. c) Pre-sternal area d) Arm.

16. Which of the following statements regarding wound healing is true?

- a) The inflammatory response to an acute wound is transient vasodilatation.
- b) Lymphocytes are the cells most critical to wound healing.
- c) Platelets are the first cells to populate the wound, followed by lymphocytes, macrophages, and then neutrophils.
- d) A granulating wound is considered to be in the proliferative stage of wound healing.

2- Haemorrhage and blood transfusion

1. **The most common cause of fatal transfusion reaction is:**
 - a) An acute bacterial infection transmitted to blood
 - b) An allergic reaction
 - c) An anaphylactoid reaction
 - d) ABO incompatible transfusion reaction
2. **Which of the following statements regarding fresh-frozen plasma are true?**
 - a) Contains all non-cellular components of blood including all clotting factors, immunoglobulin and plasma proteins.
 - b) Used for correction of abnormal PT secondary to warfarin therapy and vitamin K deficiency.
 - c) Stored at - 30°C for up to 1 year.
 - d) All of the above
3. **Signs and symptoms of hemolytic transfusion reactions include:**
 - a) Hypothermia
 - b) Hypertension.
 - c) Polyuria
 - d) Abnormal bleeding
4. **Regarding fresh frozen plasma:**
 - a) Contains factor VIII and fibrinogen.
 - b) Is used in treatment of DIC.
 - c) Is used for reversal of warfarin.
 - d) All are true
5. **The most common cause for a transfusion reaction is:**
 - a) Air embolism.
 - b) Human error.
 - c) Contaminated blood
 - d) Unusual circulating antibodies.
6. **Each of the following is a symptom of a hemolytic transfusion reaction except:**
 - a) Constricting chest pain.
 - b) Flushing of the face.
 - c) Lumbar pain.
 - d) Syncope.
7. **The greatest risk of mortality secondary to transfusion is:**
 - a) HIV
 - b) Hepatitis C
 - c) ABO incompatibility
 - d) Transfusion related lung injury
8. **A 22-year-old man (blood group O) sustained a splenic injury in a road traffic accident. He is undergoing a transfusion of 4 units prior to surgery. You are asked to review the patient 10 minutes into the transfusion as he has become unwell and agitated) he has pyrexia (39.5°C) with associated tachycardia (120 beats/min) and hypotension (80/50 mmHg). Which of the following is the most likely cause?**
 - a) Non-hemolytic febrile transfusion reaction
 - b) Bacterial contamination
 - c) Transfusion-related acute lung injury
 - d) Haemolytic transfusion reaction (ABO incompatibility)

9. The best guide for the required blood transfusion in haemorrhagic shock is the:

- a) Arterial BP.
- b) Central venous pressure (CVP)
- c) Pulse rate.
- d) Hematocrit.

10. Banked blood is deficient in all of the following except:

- a) Platelets.
- b) Potassium.
- c) White cells.
- d) Oxygen-carrying capacity of HB.

11. 25 years old patient developed severe bleeding at site of haemorrhoidectomy 7 days postoperative, this type of hemorrhage is:

- a) Primary hemorrhage.
- b) Reactionary hemorrhage.
- c) Treated mainly by antibiotics.
- d) Treated mainly by ligation of source of bleeding.

12. Which of the following about blood transfusion is false?

- a) Hemoglobin level of 10 g/dl or less is now considered a typical indication.
- b) Fresh frozen plasma is considered as the 1st line therapy in coagulopathic hemorrhage.
- c) Cryoprecipitate is useful in low-fibrinogen states and in factor VIII deficiency.
- d) Patients can pre-donate blood up to 3 weeks before surgery for autologous transfusion.

13. All of the following are manifestations of incompatible blood transfusion in the anesthetized patient, except:

- a) Sudden bradycardia
- b) Hypotension.
- c) Bleeding tendency.
- d) Hemoglobinuria.

14. Internal hemorrhage following an abdominal operation by 12 hours is considered:

- a) Primary hemorrhage
- b) Delayed primary hemorrhage
- c) Reactionary hemorrhage
- d) Secondary hemorrhage

15. The most common feared infectious complication of a blood transfusion is:

- a) Acquired immunodeficiency syndrome.
- b) Cytomegalovirus.
- c) Malaria
- d) Viral hepatitis.

16. In cases of hemorrhage, blood transfusion is needed in which of these classes:

- a) Class I.
- b) Class II.
- c) Class III.
- d) None of the above.

17. A patient with massive bleeding from a peptic ulcer is expected to have all of the following except:

- a) Blood pressure of 90/60 mmHg.
- b) Pulse of 120/minute.
- c) Respiratory rate of 26.
- d) Temperature of 37°C.

18. Hemorrhage:

- a) is arterial if bright red and spurting in time with pulse.
- b) is reactionary if occurring one week after injury.
- c) is secondary if occurring 24 hours after injury.
- d) Bradycardia is a major sign.

19. Fresh frozen plasma is normally stored at:

- a) -40 to -50°C
- b) 4°C
- c) -4°C
- d) 0°C

20. Platelets can be stored at:

- a) 20-24°C for 5 days.
- b) 20-24°C for 8 days.
- c) 4-8°C for 5 days.
- d) 4-8°C for 8 days.

21. Complications of massive blood transfusion include all, except:

- a) Hypokalemia
- b) Hypothermia
- c) Hypomagnesemia
- d) Hypocalcemia

22. Which one of the following complications is most likely following a massive blood transfusion?

- a) Metabolic alkalosis.
- b) Metabolic acidosis.
- c) Respiratory alkalosis.
- d) Respiratory acidosis.

3- Haemostasis

1. The extrinsic clotting pathway is activated by:

- a) Tissue thromboplastin.
- b) Factor Xa
- c) Factor XIIa
- d) Factor Va

2. Which one of the following is not a vitamin k dependent clotting factor?

- a) Factor II.
- b) Factor V.
- c) Factor VII.
- d) Factor XII.

3. The half-life of platelets is:

- a) 6 hours.
- b) 4 days.
- c) 1 week.
- d) 24 hours.

4. Cryoprecipitate is rich in:

- a) Factor VIII.
- b) Factor II.
- c) Factor XII.
- d) Factor X.

5. Cryoprecipitate contains all of the following factors, except:

- a) Fibrinogen.
- b) Anti-thrombin.
- c) Von Willebrand factor (VWF).
- d) Factor VIII.

6. Bleeding in disseminated intravascular coagulation is most closely related to:

- a) Raised fibrin degradation product level in the blood
- b) Prolonged prothrombin time.
- c) Low serum fibrinogen level.
- d) Raised thrombin time.

- 7. A 68-year-old man on long term warfarin therapy for atrial fibrillation is admitted to the ward 48 hours prior to elective TURP. He complains of minor gingival bleeding. His INR was 5. The most appropriate treatment is:**
- a) Fresh frozen plasma.
 - b) Protamine sulphate.
 - c) Parenteral vitamin K.
 - d) Fresh blood transfusion.
- 8. Regarding bleeding disorders, all are true except:**
- a) Von Willebrand disease is a relatively common bleeding disorder
 - b) Congenital bleeding disorders are more common than acquired defects
 - c) Deficiencies of Vit. K decrease the production of factors II, VII, IX, X
 - d) Hypothermia causes significant platelet dysfunction
- 9. In thrombocytopenic purpura:**
- a) Both bleeding time and clotting time are normal
 - b) Bleeding time is normal, clotting time is prolonged
 - c) Both bleeding time and clotting time are prolonged
 - d) Bleeding time is prolonged, clotting time is normal
- 10. An adult male with known factor VIII deficiency is undergoing hernia repair. His hemoglobin is 10 g/dl. The best transfusion therapy for this patient is:**
- a) Fresh whole blood.
 - b) Packed RBCs.
 - c) Fresh frozen plasma.
 - d) Cryoprecipitate.
- 11. All of the following coagulation factors are made in the liver except for:**
- a) Factor XII.
 - b) Factor V.
 - c) Von Willebrand's factor.
 - d) Prothrombin.
- 12. Hemolytic anaemias amenable to splenectomy are all except:**
- a) Hereditary spherocytosis
 - b) Acquired autoimmune anemia
 - c) Sickle cell anemia
 - d) Thalassaemia
- 13. Regarding the prothrombin time all the following are true except:**
- a) Measures the activity of the extrinsic coagulation pathway.
 - b) Is not usually prolonged in liver disease.
 - c) Is normal in hemophilia A.
 - d) Can be expressed as the INR when monitoring warfarin dosage.
- 14. Heparin:**
- a) Potentiates the actions of antithrombin III.
 - b) Has a half-life of 90 minutes.
 - c) Can be reversed by protamine sulphate.
 - d) Can induce thrombocytopenia.
 - e) All are true.
- 15. Coumadin effect can be reversed by:**
- a) Vit. C.
 - b) Calcium
 - c) Vit. K1
 - d) Vit. K2.

16. Regarding warfarin all are true except:

- a) Reduces the concentration of vitamin a dependent clotting factors.
- b) Has a half-life of about 36 hours.
- c) Crosses the placenta and should be avoided in pregnancy.
- d) Doses should be reduced in liver disease.

17. The most frequent hereditary bleeding disorder is:

- a) Hemophilia a.
- b) Haemophilia b.
- c) Von Willebrand disease.
- d) Immunogenic thrombocytopenic purpura.

18. The primary defect in Von Willebrand's disease is:

- a) Inadequate production of fibrin.
- b) Excessive fibrinolysis.
- c) Failure of platelet aggregation.
- d) Failure of vessel constriction.

19. A 30 years old woman with a history of an uneventful tonsillectomy at age four is scheduled for exploratory laparotomy. Preoperative assessment that identifies the risk of intraoperative bleeding is which of the following?

- a) Bleeding time
- b) Platelet count
- c) PT and PTT
- d) Obtaining a detailed history.

20. A 43-year-old woman with Von Willebrand's disease is scheduled for cholecystectomy. It can be stated that preoperative evaluation will reveal which of the following?

- a) Normal bleeding time, PT, and PTT
- b) Platelet aggregate with restocetin
- c) Increased bleeding time and PTT, and normal PT
- d) Increased bleeding time and PT, and normal PTT

21. A 45-year-old woman with deep vein thrombosis is taking warfarin (coumadin), 5 mg/d seven days after initiation of therapy; she has warfarin-induced skin necrosis. Which of the following statements regarding this condition is true?

- a) It commonly occurs after warfarin therapy.
- b) It improves with an increase in the dose of coumadin.
- c) It improves with a decrease in the dose of coumadin.
- d) It requires cessation of coumadin and infusion of heparin.

22. A 40-year-old woman with deep vein thrombosis is being treated with IV heparin, 1000 u/h. On the seventh day of treatment, her laboratory values are hemoglobin, 14 g/dl; WBC count, 7600/mm³; platelet count, 30,000/mm³; PT, 13 seconds (control, 12.5 seconds); and PTT, 50 seconds (control, 26 seconds). What management would be appropriate?

- a) Continue with heparin at the same dosage
- b) Increase heparin
- c) Decrease heparin
- d) Discontinue heparin

- 23. A 41-year-old woman has an episode of mild right upper quadrant (RUQ) pain associated with jaundice that resolves completely with antibiotics. Workup reveals numerous large stones in the gallbladder. The patient has Polycythemia Vera, a hematocrit of 58%, and a platelet count of 1.8 million. What is the preferred course of treatment for this patient?**
- a) She should be referred to the medical clinic for follow-up care and be observed.
 - b) She should undergo phlebotomy and then be scheduled for cholecystectomy.
 - c) She should be treated with chlorambucil for 6 weeks and then undergo cholecystectomy.
 - d) She should receive miniheparin and urgent cholecystectomy.
- 24. A patient with hemophilia has a factor level of 8%. This is considered to be:**
- a) mild hemophilia
 - b) moderately severe hemophilia
 - c) severe hemophilia
 - d) extremely severe hemophilia
- 25. Regarding low molecular weight heparin, all are true except:**
- a) Has a shorter half-life than un-fractionated heparins
 - b) Acts predominantly on factor Xa
 - c) In spite of adequate anticoagulation aPTT remains within the normal limits
 - d) Is predominately eliminated by kidney.
- 26. With regard to normal hemostasis, which of the following statements is true?**
- a) Vascular disruption is followed by vasoconstriction mediated by vasoactive substances released by activated platelets.
 - b) Platelet adhesion is mediated by fibrin monomers.
 - c) The endothelial surface supports platelet adhesion and thrombus formation.
 - d) A prolonged bleeding time may be due to thrombocytopenia, a qualitative platelet defect, or reduced amounts of Von-Willebrand factor.
- 27. Which of the following conditions is associated with an isolated prothrombin time (PT) prolongation?**
- a) Von Willebrand disease
 - b) Factor VIII deficiency (hemophilia A)
 - c) Common pathway factor deficiencies (factors II, V, and X and fibrinogen)
 - d) Therapeutic anticoagulation with warfarin (coumadin)
- 28. With regard to evaluating bleeding in surgical patients, which of the following statements is true?**
- a) Bleeding from a resected prostatic bed indicates poor local hemostasis.
 - b) The most common cause of surgical bleeding is incomplete mechanical hemostasis.
 - c) Aminocaproic acid is an excellent topical hemostatic agent for non-mucosal wounds.
 - d) Bleeding from a surgical wound with bleeding from other sites is poor local hemostasis.

- 29. With regard to classic hemophilia, which of the following statements is true?**
- a) The incidence in the general population is 1 in 5000.
 - b) A given patient's baseline factor VIII or IX level may fluctuate with stress.
 - c) Muscle compartment bleeding is the most common orthopedic problem.
 - d) Factor VIII replacement therapy is required before any elective surgery.
- 30. Regarding the prothrombin time all the following are true, except:**
- a) Measures the activity of the extrinsic coagulation pathway.
 - b) Is not usually prolonged in liver disease.
 - c) Can be expressed as the INR when monitoring warfarin dosage.
 - d) Is prolonged in vitamin K malabsorption (obstructive jaundice).
- 31. Which of the following does not go with diagnosis of hereditary spherocytosis:**
- a) Gall stones.
 - b) Reticulocytosis.
 - c) Decreased urobilinogen.
 - d) RBCs haemolysis occurs at 0.6% normal saline or above.
- 32. Regarding coagulation factors all are true, except:**
- a) Synthesis of factors II, VII, IX and X is vitamin K dependent.
 - b) Anti- thrombin III has anticoagulant activity.
 - c) Protein C has anticoagulant activity.
 - d) Factor VII is a component of the intrinsic pathway.
- 33. As regarding idiopathic thrombocytopenic purpura (ITP) all of the following statements are true except:**
- a) Is most common in males in their 20s.
 - b) Is frequently cured in children by corticosteroid administration.
 - c) Usually requires splenectomy in adults.
 - d) Majority of patients achieve normal platelet count after splenectomy.
- 34. In hereditary spherocytosis RBC destruction is due to:**
- a) Increase in permeability of RBC membrane to sodium.
 - b) Increased deformity of RBCs when exposed to hypoxia.
 - c) Antigen - antibody reaction on the surface of RBCs.
 - d) Complement activation on the surface of RBCs.
- 35. Post circumcision bleeding in newborn due to:**
- a) ITP
 - b) Hemophilia
 - c) Leukemia
 - d) Hereditary spherocytosis
- 36. Half-life of factor VIII is Hours:**
- a) 7
 - b) 8
 - c) 34
 - d) 48

- 37. An 18-month-old boy slipped and hurt his right knee while walking. He presents with a tender, swollen, warm knee with significant hemarthrosis. His PT is 12 (normal, 13 seconds), PTT is over 100 (normal, 25 seconds), platelet count is 300,000/mm³, and bleeding time is normal. Initial management should consist of which of the following?**
- a) Fresh-frozen plasma
 - b) Aspiration of knee
 - c) Factor VIII concentrate
 - d) Passive exercise
- 38. A 70-year-old man was administered 20,000 U of heparin before femoral artery embolectomy. Following surgery, he is noted to have generalized bleeding from the wound margins. Immediate management should consist of administration of which of the following?**
- a) Fresh-frozen plasma.
 - b) Cryoprecipitate.
 - c) Platelet transfusion.
 - d) Intravenous protamine sulfate.
- 39. A 90-year-old woman with a fractured neck of femur is receiving low-molecular-weight heparin (LMWH). Which of the following statements regarding LMWH is true?**
- a) It has molecular weight below 4000 D.
 - b) Its anticoagulant effect is by binding to antithrombin III.
 - c) It should be administered two to three times a day.
 - d) It has lower bioavailability than standard heparin.
- 40. Which of the following is required for platelet adherence to exposed areas of an injured vessel?**
- a) Prothrombin
 - b) Von Willebrand factor.
 - c) glycoprotein IX
 - d) prostaglandin GB
- 41. Which of the following drugs irreversibly inhibits platelet cox (cyclo-oxygenase)?**
- a) Ibuprofen.
 - b) Clopidogrel.
 - c) Aspirin
 - d) Celebrex
- 42. An abnormal aPTT (partial thromboplastin time) is associated with an abnormality in which portion of the clotting mechanism?**
- a) Platelet aggregation.
 - b) Intrinsic pathway.
 - c) Extrinsic pathway.
 - d) coagulation (dot formation)
- 43. Factor XIII deficiency most commonly presents**
- a) Severe intraoperative bleeding.
 - b) Delayed bleeding after injury or surgery
 - c) Spontaneous hemarthrosis
 - d) Spontaneous gastrointestinal bleeding

4- Shock and cardiac arrest

1. **In hemorrhagic shock, peripheral vascular resistance:**
 - a) Increases.
 - b) Decreases.
 - c) Remains constant.
 - d) Any of the above.
2. **The incriminated organism in septic shock may be:**
 - a) Gram +ve bacteria.
 - b) Gram -ve bacteria.
 - c) Candida albicans.
 - d) Any of the above.
3. **The most effective treatment for anaphylactic shock is:**
 - a) IV anti-histaminics.
 - b) IV corticosteroids.
 - c) IV antibiotics.
 - d) Intra-cardiac adrenaline.
4. **As regards vasovagal attacks all are true except:**
 - a) Usual cause is trauma to trigger area.
 - b) Psychic trauma is a recognized cause.
 - c) Atropine is the gold standard treatment of the condition.
 - d) Usually there is peripheral pooling of blood.
5. **Secondary hemorrhage is usually due to:**
 - a) Trauma
 - b) Slipped ligature
 - c) Infection
 - d) All of the above
6. **Oligemic shock is characterized by all of the following, except:**
 - a) Tachycardia.
 - b) Hypotension.
 - c) Pallor.
 - d) Generalized vasoconstriction.
7. **The hyperdynamic phase of septic shock is characterized by the following signs except:**
 - a) Hyperventilation
 - b) Hypotension.
 - c) Tachycardia.
 - d) Pale cold extremities.
8. **Septic shock responds best to:**
 - a) Massive antibiotics
 - b) Intravenous infusion.
 - c) Adrenocortical steroids.
 - d) Drainage of septic collections.
9. **In which of the following cases might tachycardia accompany shock?**
 - a) Hypovolemia due to GIT bleeding.
 - b) Patients with implanted pacemaker.
 - c) Cardiogenic shock.
 - d) Fit young adults with normal pulse rate of 50/ min.
10. **Which of the following statements is false?**
 - a) Administration of an inotropic agent to an empty heart will help to increase diastolic filling and coronary perfusion.
 - b) In all cases, regardless of classification, hypovolemia and preload must be addressed first.
 - c) The oxygen carrying capacity of both colloids and crystalloids is zero.
 - d) Hypotonic solutions are poor volume expanders and should not be used in shock except in conditions of free water loss or sodium overload.

- 11. Which of the following about reactionary hemorrhage is false?**
- a) This is delayed hemorrhage occurring within 24h after operation.
 - b) It is usually caused by dislodgement of clot, normalization of blood pressure or slippage of ligature.
 - c) It is associated with infection.
 - d) It can be significant requiring re-exploration.
- 12. All of the following are true regarding CVP measurement, except:**
- a) It is equal to the end-diastolic pressure in the right ventricle.
 - b) It roughly corresponds to the blood volume.
 - c) The normal pressure is 5-10 mmHg.
 - d) A chest X-ray is necessary to confirm the diagnosis.
- 13. Massive bleeding per rectum in a child is usually due to:**
- a) Complicated Meckel's diverticulum.
 - b) Ilea-caecal intussusception.
 - c) Colonic diverticulitis.
 - d) Carcinoma of the rectum.
- 14. Assessment of successful fluid replacement in hypovolemic shock is by:**
- a) Color of the skin
 - b) Urine output
 - c) Pulse rate
 - d) Blood pressure
- 15. In shock, kidneys may develop:**
- a) Acute tubular necrosis
 - b) Acute pyelonephritis
 - c) Acute glomerulonephritis
 - d) Acute nephritis
- 16. Which of the following statements is true?**
- a) The product of aerobic respiration is lactic acid.
 - b) The product of anaerobic respiration is carbon dioxide.
 - c) The accumulation of lactic acid in the blood produces respiratory acidosis.
 - d) Lack of oxygen and glucose in the cell will eventually lead to failure of sodium/potassium pumps in the cell membrane and intracellular organelles.
- 17. Which of the following statements about ischaemia-reperfusion syndrome is correct?**
- a) This refers to the cellular injury because of the direct effects of tissue hypoxia.
 - b) Is seen after normal circulation is restored to tissues following an episode of hypoperfusion.
 - c) The increased sodium load can lead to myocardial depression.
 - d) It usually does not cause death.
- 18. Compensatory mechanisms during acute hemorrhage include:**
- a) Decreased cerebral & coronary bl. Flow
 - b) Decreased myocardial contractility.
 - c) Renal and splanchnic vasodilatation.
 - d) Increased respiratory rate.

19. Class 4 hypovolemic shock is present in presence of all except:

- a) Blood loss more than 40%
- b) Heart rate > 140 min.
- c) Urine output 10-15 ml/hr.
- d) Drowsy, confused patient.

20. Which of the following statements is true regarding neurogenic shock?

- a) Neurogenic shock is due to severe blood loss associated with a spinal cord injury.
- b) Neurogenic shock can be diagnosed when there is hypotension and tachycardia.
- c) Neurogenic shock is due to increased parasympathetic tone.
- d) Neurogenic shock is best treated with careful use of fluids and vasopressors.

21. Regarding cardiogenic shock all the following are true except:

- a) Caused by myocardial infarction, pulmonary embolism, tension pneumothorax.
- b) Preload is usually inadequate
- c) Dobutamine is a useful inotropic agent
- d) Afterload-reducing agents as sodium nitroprusside is useful

22. A patient has a blood pressure of 70/50 mmHg and a serum lactate level of 30 Mg/100ml (normal: 6 to 16). His cardiac output is 1.9l/min, and his central venous pressure is 2 cm H₂O. The most likely diagnosis is:

- a) Congestive heart failure.
- b) Cardiac tamponade.
- c) Hypovolemic shock.
- d) Septic shock.

23. Grade III hemorrhagic shock:

- a) Occurs after the sudden loss of 1.5 - 2 liters of blood.
- b) Is associated with a near normal heart rate.
- c) Systolic blood pressure is normal.
- d) The respiratory rate is usually below 20 breath/min.

24. Recognized complications of septic shock include all except:

- a) Warm extremities.
- b) Hypothermia
- c) Polyuria.
- d) ARDS.

25. Post-operative day 5, following sigmoid colectomy for cancer sigmoid, a patient developed tachycardia, warm peripheries, WBC= 17000, HB= 8gm/dl. The underlying cause is:

- a) Anaphylactic shock.
- b) Hypovolemic shock
- c) Cardiogenic shock.
- d) Septic shock.

26. Management of a patient with septic shock includes all of the following except:

- a) Fluid replacement.
- b) Oxygen administration.
- c) Renal support.
- d) Delay management of the septic focus till the patient recovers.

27. In cases of shock, inotropic agents are used:

- a) In all cases of anaphylactic shock.
- b) When vital signs fail to improve in spite of adequate fluid replacement.
- c) In the initial phases of septic shock.
- d) In all cases of neurogenic shock.

28. A patient with a palpable carotid pulse but no femoral pulses, has an approximate systolic blood pressure of:

- a) 60 mmHg.
- b) 70 mmHg
- c) 80 mmHg.
- d) 90 mmHg.

29. A 27-year-old man is involved in a car crash while traveling in excess of 70 mi/h. He sustains an intra-abdominal injury and a fracture of the femur. The BP is 60/40 mmHg, and the hematocrit is 16%. Which physiologic changes will ensue?

- a) Peripheral vasodilation
- b) Inhibition of sympathetic tone
- c) Lactic acidosis
- d) Eosinophilia

30. A 30-year-old man is brought to the emergency department following a high-speed car accident. He was the driver, and the windshield of the car was broken. On examination, he is alert, awake, oriented, and in no respiratory distress. He is unable to move any of his four extremities; however, his extremities are warm and pink. His vital signs on admission are HR 54 bpm and BP 70/40 mmHg. What is the diagnosis?

- a) Hemorrhagic shock
- b) Cardiogenic shock
- c) Neurogenic shock
- d) Septic shock

31. A 55-year-old man involved in an automobile accident is unresponsive and is intubated at the scene. On arrival in the emergency department, he responds to painful stimulation. His systolic BP is 60 mmHg, his HR is 140 bpm, his neck veins are distended, and his breath sounds are absent on the left side. Immediate Management should involve which of the following?

- a) Insertion of a central venous line on the right side
- b) Insertion of an 18-gauge needle in the left second intercostal space
- c) Pericardiocentesis
- d) Peritoneal lavage with CT scan of head

32. In septic shock, which of the following is true?

- a) The mortality rate is between 10% and 20%.
- b) Gram-negative organisms are involved exclusively.
- c) The majority of patients are elderly.
- d) The most common source of infection is the alimentary tract.
- e) Two or more organisms are responsible in most cases.

33. A 68-year-old man has a history of myocardial infarction. He undergoes uneventful left hemi-colectomy for carcinoma of the colon. In the recovery room, he is hypotensive and given a fluid bolus of 500ml Ringer's lactate over 30 minutes. He is intubated, his neck veins are distended, his HR is 130 bpm, his BP is 80/60 mmHg, and his urine output is 20ml over the last hour. What should be the next step in his management?

- a) Administration of Ringer's lactate, 500 ml over 1 hour
- b) Administration of dopamine
- c) Insertion of a swan-ganz catheter
- d) Administration of lasix

34. A 20-year-old man has undergone appendectomy for perforated appendicitis with generalized peritonitis. Seven days postoperatively, his temperature continues to spike to 39.9°C despite antibiotic therapy with ampicillin, gentamicin, and metronidazole. A CT scan reveals a large pelvic abscess. Soon afterward, he has bleeding from the mouth and nose with increasing oozing from the surgical wound and all intravenous puncture sites. What is the most likely diagnosis?

- a) Anaphylactoid reaction to intravenous dye
- b) Disseminated intravascular coagulation (DIC)
- c) Antibiotic-induced coagulopathy
- d) Liver failure

35. During the treatment of septic shock, a 28-year-old male remains hypotensive despite adequate volume replacement; pulmonary artery occlusion pressure is 18 mmHg. When dopamine is started, ventricular tachycardia develops which is unresponsive to lidocaine. The V-tach converts back to sinus rhythm once the dopamine is stopped. At this point, which of the following treatments are most appropriate for this hypotensive patient?

- a) Amrinone
- b) Dobutamine
- c) Epinephrine
- d) Phenylephrine

36. A 65-year-old male is resuscitated using hydroxyethyl starch (hetastarch). Which of the following is associated with the use of hetastarch?

- a) Thrombotic thrombocytopenia
- b) Elevated levels of factor VIII
- c) Elevation of serum creatinine
- d) Hyperamylasemia

37. A 55-year-old male presents to the emergency room (ER) with a history suggestive of myocardial infarction, but without a diagnostic ECG pattern of ST-segment elevation. Which of the following ECG patterns strongly suggests that thrombolytic therapy should be administered?

- a) Right bundle branch block
- b) Left bundle branch block
- c) Second-degree AV block (Wenckebach type)
- d) Complete atrioventricular (AV) block

38. Shock following severe carbon monoxide poisoning is most commonly

- a) Hypovolemic shock
- b) Neurogenic shock
- c) Cardiogenic shock
- d) Vasodilatory shock

39. The antibiotic of choice in a penicillin allergic patient undergoing a cholecystectomy for acute cholecystitis is:

- a) Ertepenem
- b) Ceftriaxone
- c) Vancomycin + metronidazole
- d) Fluoroquinolone + metronidazole

40. The defining difference between patients with sepsis and severe sepsis is:

- a) Positive blood culture
- b) Fever over 40°C
- c) Need to infuse intravenous fluid to restore blood pressure
- d) An increase in serum creatinine of two fold or greater

41. Evidence from a randomized control trial indicates that for patients in septic shock, steroid therapy is:

- a) Effective in patients with a marked increase in cortisol after ACTH therapy
- b) Capable of reducing the risk of death, if given in "large" doses
- c) Effective if given in "low" doses
- d) Has no role

42. The initiating event in shock is:

- a) Hypotension
- b) Decreased cardiac output
- c) Decreased oxygen delivery
- d) Cellular energy deficit

43. The following conditions may lead to shock except:

- a) Penicillin injection.
- b) Myocardial infarction
- c) Loss of 8% blood volume.
- d) Quinsy.

44. In hemorrhagic shock all of the following are present, except:

- a) Low cardiac output.
- b) Decreased venous return.
- c) Peripheral pooling
- d) Increased peripheral resistance.

45. Which of the following regarding blood pressure in shock is false?

- a) Elderly patients who are normally hypertensive may present with a normal blood pressure.
- b) Children and fit young adults are able to maintain blood pressure until the final stages of shock.
- c) Hypotension is one of the first signs of shock
- d) Beta-blockers may prevent a tachycardiac response

46. All of the following are associated with hypovolemia except:

- a) Tachycardia
- b) Uraemia
- c) Decreased urinary sodium excretion.
- d) Increased urine output.

47. Signs and symptoms associated with early sepsis include:

- a) Decreased cardiac output.
- b) Hypoglycemia.
- c) Increased arteriovenous oxygen difference.
- d) Cutaneous vasodilatation.

48. Central venous pressure (CVP) may be decreased by:

- a) Pulmonary embolism.
- b) Hypervolemia
- c) Pneumothorax.
- d) Gram-negative sepsis.

49. The effect of shock on the tissues of the body will lead to:

- a) Aerobic metabolism and metabolic acidosis.
- b) Aerobic metabolism and respiratory acidosis.
- c) Anaerobic metabolism and respiratory acidosis.
- d) Anaerobic metabolism and metabolic acidosis.

50. The earliest sign of hypovolemic shock is:

- a) Hypotension.
- b) Increased respiratory rate.
- c) Tachycardia
- d) Decreased urine output.

51. Which of the following statements regarding hypovolemic shock is true?

- a) It is associated with high cardiac output.
- b) The vascular resistance is low.
- c) The central venous pressure is low.
- d) The base deficit is low.

52. The following statements about cardiac arrest are true except that it:

- a) May be due to cardiac asystole or to ventricular fibrillation.
- b) Causes irreversible brain damage after three minutes.
- c) Is suspected from absence of the carotid pulse.
- d) Should be treated at once by open cardiac massage.

53. Central venous pressure (CVP):

- a) Is not affected by posture.
- b) Is elevated in right ventricular failure.
- c) Is normal in septic shock.
- d) Accurately reflects cardiac output.

54. Neurogenic shock is characterized by the presence of:

- a) Cool moist skin.
- b) Increased cardiac output.
- c) Decreased peripheral vascular resistance.
- d) Decreased blood volume.

55. In septic shock:

- a) Causes may include peritonitis and burns.
- b) Metabolic alkalosis may develop.
- c) Nitrous oxide may be used for treatment of vasoconstriction.
- d) Caused by gram negative exotoxins.

56. The most important factor in the treatment of a shocked patient is restoration of:

- a) Arterial blood pressure.
- b) Central venous pressure.
- c) Cardiac output.
- d) Tissue perfusion.

- 57. All of the following can be used to resuscitate a shocked patient except:**
- a) Lactated Ringer's solution.
 - b) Dextran.
 - c) Blood transfusion.
 - d) Glucose 5%.
- 58. What percentage of blood volume must be lost in healthy patients before hypotension occurs?**
- a) 10-20%.
 - b) 20-30%
 - c) 30- 40%.
 - d) 40- 50%.
- 59. A common physiologic characteristic of septic shock is:**
- a) Elevated central venous pressure
 - b) High systemic vascular resistance
 - c) Low cardiac output
 - d) Systemic vasodilatation
- 60. The most likely consequence of infusion of dopamine at 5µg/kg/min into a patient in septic shock is:**
- a) Arterial vasoconstriction
 - b) An increase in cardiac contractility
 - c) Venodilation
 - d) A fall in urine output
- 61. A stimulus that commonly activates the renin-angiotensin-aldosterone axis is:**
- a) Hypothermia
 - b) Hypochloremia
 - c) Hypotension
 - d) Tachycardia
- 62. Which of the following is seen as a result of this increased level of ADH?**
- a) Decreased water permeability in the distal tubule
 - b) Increased sodium loss in the distal tubule
 - c) Mesenteric vasoconstriction
 - d) Mesenteric vasodilation
- 63. Regarding septic shock:**
- a) Is only caused by gram negative organisms.
 - b) Carries a favorable prognosis.
 - c) Produces cellular defect that inhibits oxygen utilization.
 - d) Is not particularly associated with infective complication of the gastrointestinal and genitourinary systems.

5- Burn &reconstruction

- 1. Metabolic changes after burning are due to the following except:**
- a) The endocrine responses to injury.
 - b) Reduced heat loss.
 - c) Increased insensible water loss.
 - d) Local fluid loss into the burnt area.
- 2. Which statement is incorrect concerning electrical burns?**
- a) Are always superficial.
 - b) Are often associated with massive muscle necrosis.
 - c) May cause reddish discoloration of the urine.
 - d) Are best treated by immediate excision and grafting.

- 3. Which of the following statements regarding burn depth is true?**
- a) The depth of burn together with percentage of TBSA and smoke inhalation are key parameters in the assessment and management of a burn.
 - b) Alkalis usually result in superficial burns.
 - c) Capillary filling is not present in superficial burns.
 - d) Deep dermal burns take a maximum of 2 weeks to heal without surgery.
- 4. All of the following statements regarding the consequences of burns are true except:**
- a) As a result of burn, complement causes degranulation of mast cells and consequently neutrophils.
 - b) Mast cells do not release primary cytokines.
 - c) As a result of burn, an increase in vascular permeability occurs.
 - d) In burn affecting more than 15% TBSA in an adult, fluid loss results in shock and the volume lost as fluids is directly proportional to the area of burn.
- 5. All of the following are true regarding burn complications except:**
- a) Infections with bacteria and fungi are rare in large burns.
 - b) Malabsorption from gut damage is a known complication in a burned patient.
 - c) Circumferential full-thickness burns of a limb can result in ischemia.
 - d) A change in voice is an important clinical sign in an inhalation burned patient.
- 6. Which of the following statements regarding the treatment of burns is true?**
- a) Cooling of a scald for a minimum of 10 min. Is of no value in giving analgesia or slowing the injury associated with a fresh burn.
 - b) Other non-burn injuries may coexist with a burn.
 - c) Criteria for acute admission to a burn unit do not exist or are unnecessary.
 - d) A significant hand burn should not be admitted to a burn unit and can be easily managed as an outpatient.
- 7. All of the following are true regarding burns except:**
- a) Oral fluids containing no salt are essential when given as fluid replacement in burns.
 - b) Fluids required for resuscitation can be calculated from standard formulae.
 - c) Urine output gives a major clue as to adequacy of fluid replacement.
 - d) Three types of fluids can be used for IV resuscitation in burns; Ringer's lactate, hypertonic saline or colloids.
- 8. All of the following are true regarding burns except:**
- a) The simplest and most commonly used crystalloid is Ringer's lactate.
 - b) Human albumin solution is a colloid which reduces protein leak from the cells.
 - c) The parkland formula is the most commonly used formula in UK and calculates fluid loss in the first 24h.
 - d) Using the parkland formula, the fluid requirement in the first 24h for a man of 70 kg with a burn involving both upper limbs, including the hands, is 4800 ml.

9. A 35-year-old smoker is involved in a house fire and receives a 45% total surface area burn. One half of the burned surface appears to be third degree. On the third post-burn day, the patient is noted to have bloody drainage from a nasogastric tube and a decrease of 5% in his hematocrit. What is the cause of this hematemesis:

- a) Cushing ulcer
- b) Esophageal avarices
- c) Curling ulcer
- d) Mallory-Weiss syndrome

10. Random pattern flaps are:

- a) Flaps that shares a border with the defect
- b) Flaps with no dominant blood supply
- c) Flaps that survives on an intact distal feeding vessel
- d) Flaps that is raised with its blood vessels and anastomosed in the recipient site with a suitable blood vessel

11. The most important part of the initial management of a burn of the hand is:

- a) Elevation
- b) Early range of motion exercise
- c) Early debridement.
- d) Early grafting

12. Which of the following regarding myocutaneous and fasciocutaneous flaps is false?

- a) Myocutaneous and fasciocutaneous flaps are unreliable in plastic surgery repairs.
- b) Knowledge of blood supply in the area of use is essential when these flaps are used.
- c) These flaps can be used without skin if required.
- d) Survival of the skin when used in these flaps as skin island flaps depends on small perforating vessels.

13. Which of the following statements regarding free flaps is not true?

- a) Free flaps are the best way of reconstructing major composite loss of tissue.
- b) Debridement of the area of reconstruction is necessary for the use of free flaps.
- c) Major donor site morbidity is a possible disadvantage in free-flap surgery.
- d) It usually takes more time to perform the surgery associated with a microsurgical procedure unless the surgeon is experienced.

14. Which of the following statements regarding the consequences of burns is false?

- a) As a result of a burn, complement causes degranulation of mast cells and, subsequently, neutrophils.
- b) As a result of a burn, an increase in vascular permeability occurs.
- c) Following a burn, water only moves from intravascular to the extravascular space.
- d) In burns affecting more than 15 % TBSA in an adult, fluid loss results in shock and the volume lost as fluids is directly proportional to the area of burn.

15. Which of the following statements is false?

- a) The simplest and most commonly used crystalloid is Ringer's lactate.
- b) Hypertonic saline produces an excess of intracellular water shifting to the extracellular space.
- c) Human albumin solution is a colloid which reduces protein leak out of cells, thereby helping to reduce edema)
- d) The parkland formula is the most widely used formula and calculates the fluid replacement in the first 24 h.

16. A 43-year-old window cleaner fell off a scaffold. He sustained an open wound on the right leg. Debridement was carried out in the emergency department, and the edges of the wound were left open. The wound measures 4cm x 6cm.

i. What is true of wound contraction?

- a) It occurs within 12 hours of injury.
- b) It is more prominent over the tibia than gluteal region.
- c) It accounts for excessive fibrous tissue formation and fixation of tissue around a joint.
- d) It is experimentally less affected by excision of tissue from center of wound rather than at the periphery.

ii. Which factor is least likely to inhibit wound contraction?

- a) Radiation
- b) Cytolytic drug
- c) Full-thickness skin graft
- d) External splints

17. All of the following are true regarding burns except:

- a) Analgesia is a vital part of burn management.
- b) For large burns over 10% TBSA, IM injections of opiates are the best.
- c) Removing the burn tissues and achieving healing reduce pain and are also effective in stopping the catabolic drive.
- d) In adults with burns covering 15% TBSA or more, extra feeding is required.

18. Which of the following statements regarding flaps are true?

- a) Imbibition is not a process associated with survival of split-skin grafts in the 1st 48h.
- b) Gentle handling and the best postoperative care help to ensure the successful take of a full-thickness graft.
- c) Grafts will take on exposed tendons and cortical bone.
- d) The more dermis in the graft, the more is the contraction.

19. An otherwise healthy 32-year-old man who has a severe burn scar contracture at the elbow undergoes contracture release. Which of the following reconstructive methods is most likely to result in recurrent contracture?

- a) Split- thickness skin graft.
- b) Groin free flap.
- c) Full thickness skin graft and postoperative splinting.
- d) Pedicled

20. False regarding restoration of skin coverage at areas of lost skin and soft tissue:

- a) A partial thickness skin graft will take well only if applied over healthy granulation tissue.
- b) Skin flaps rather than split thickness grafts should be used to cover the weight bearing area of the heel.
- c) A properly applied skin graft will take well only in absence of postoperative wound infection.
- d) The cosmetic problem of a flap is the development of pigmentation mismatch with the normal skin, unlike the case if a split thickness graft is used.

21. A graft taken at a dermal level including elements of epidermis and part of dermis:

- a) Is a full thickness graft.
- b) Is used when large areas of skin are required.
- c) Requires 10 days before blood flow is established in it.
- d) All of the above.

22. Improvement in deep burn, survival is attributed to:

- a) Prophylactic antibiotics.
- b) Nutritional support (enteral and parenteral).
- c) Early excision and grafting.
- d) Fresh frozen plasma administration.

23. All the following statements about burn are true, except:

- a) Scalds are caused by boiled liquids and mostly affect children.
- b) Flame burns are the most common burn in industrial accidents.
- c) Blood and bones are weak conductors of electricity so they resist the high voltage currents.
- d) Presence of pain is important to differentiate second degree burn from third degree burn when both patterns intermingle together.

24. In skin graft transfer the word "take" of graft refers to:

- a) Healing of graft
- b) Vascularization of graft
- c) Dense attachment of graft to surrounding tissue
- d) Epithelial in growth in the margins

25. Which of the following skin grafts has least contraction?

- a) Full thickness
- b) Both have equal contraction
- c) Split thickness
- d) All of the above

26. The first stage of healing in a skin graft is:

- a) Revascularization
- b) Imbibition
- c) Inoculation
- d) None of the above

- 27. Which of the following has the highest degree of secondary contraction?**
a) Thin split-thickness skin graft
b) Thick split-thickness skin graft
c) Meshed thick split-thickness skin graft
d) Full-thickness skin graft
- 28. A 62 kg 18-year-old female sustained a burn of all her back and the backs of both lower limbs. This is considered which extent of burns:**
a) Minor. b) Intermediate. c) Major. d) Superficial
- 29. This same patient will require this volume of saline (in ml) during the first 24 hours according to Evan's formula:**
a) 3233. b) 1894. c) 2232. d) 2408.
- 30. A burned victim has involvement of his face, anterior part of the neck the anterior surface of the chest and abdomen and the anterior parts of both upper limbs will have:**
a) 25% burn. c) 36% burn.
b) 31.5% burn. d) 40.5% burn.
- 31. This same victim is considered to have:**
a) A minor burn. c) An intermediate burn.
b) A major burn. d) An extensive burn.
- 32. The management of a patient with a burn of 30% of the trunk includes all except:**
a) IV Ringer's lactate solution. c) Hematocrit readings.
b) Monitoring urine output. d) Urgent tracheostomy.
- 33. What is the first priority in the treatment of a patient who had a burn of the face due to inhalation injury in a closed space?**
a) Insertion of wide bore cannula + start IV resuscitation.
b) IV antibiotics. c) Endotracheal intubation.
d) Protection of the eyes by an ointment.
- 34. What percentage burn does a patient have who has suffered burns to one leg (circumferential), one arm (circumferential), and anterior trunk?**
a) 18%. b) 27%. c) 36%. d) 45%.
- 35. Skin graft survival in the first 48 hours is dependent on:**
a) Random connection between host and donor capillaries.
b) Plasmatic imbibition c) Saline in dressing.
d) Development of new blood vessels.
- 36. A wolf graft is:**
a) A partial thickness skin graft. b) A small full thickness skin graft.
c) A pinch skin graft. d) A pedicle graft.

37. Regarding skin grafts choose the correct statement:

- a) Split-skin grafts contain epidermis only.
- b) Split-skin grafts maintain their own blood supply.
- c) Thicker split-skin grafts are more likely to 'take' than thinner ones.
- d) Split-skin grafts result in greater contraction than full-thickness

38. In the rule of nine for calculation of BSA, the entire back accounts for:

- a) 9%
- b) 18%
- c) 36%

39. According to the "rule of nine" in estimating the surface area of burn, all of the following is correct except:

- a) The perineum is calculated as 1%
- b) Lower limb is calculated as 18%
- c) Head and neck are calculated as 18%
- d) Upper limbs are calculated as 18%

40. Which of the following statements is not true?

- a) Superficial burns can be treated by a variety of simple dressings or by the exposure method, particularly for small burns of the face, when the climate is hot and Intensive nursing support is readily available.
- b) Silver sulphadiazine 1 % can be used effectively as a broad spectrum-antibiotic but not for methicillin-resistant staphylococcus aureus (MRSA).
- c) Deep dermal burns require dressings in order to reduce pain, reduce or treat infection, reduce scarring and operations.
- d) None of the above

41. Which of the following statements is true?

- a) The management of blisters by leaving them intact or removing them remains debatable.
- b) Initial cleaning of a burn wound with chlorhexidine solution is contraindicated.
- c) If a burn has not healed within 3 weeks, it is worth avoiding debridement and skin grafting
- d) Any burn of indeterminate depth should be reassessed after 2 weeks.

42. Which of the following statements is not true?

- a) The surface of the skin is an important biological layer for homeostasis.
- b) Epidermis regenerates from deeper follicular elements.
- c) Epidermal keratinocytes cannot be cultured & thus are of no value in wound management.
- d) The depth of skin varies in different parts of the body.

43. Which of the following statements regarding complications with flaps is not true?

- a) A pale and cold flap is a sign that the venous supply is compromised.
- b) Too much tension of flap inset can cause flap failure in every type of flap, including free flaps
- c) Poor knowledge of anatomy and the blood supply to flap tissue will be a cause of flap failure
- d) Well-controlled analgesia to reduce catecholamine output is good advice in management of major tissue transfers.

44. Which of the following statements regarding the zones of injury in a burn wound is true?

- a) A zone of hyperemia superficial to a zone of stasis, with a deeper zone of coagulation beneath
- b) A zone of coagulation at the surface of a burn wound, a zone of stasis within the injured dermal layer, and a deep zone of hyperemia characterized by vasodilated subcutaneous vessels
- c) A zone of coagulation, surrounded by a zone of stasis, surrounded by a zone of hyperemia
- d) A zone of hemorrhagic burn that must be coagulated, a zone of stasis in which the depth of burn injury is already fixed, and a zone of hyperemia that may convert to coagulation.

45. A 6-year-old girl suffers full-thickness flame burns on her forearm after playing with matches. Which of the following is correct regarding wound healing after her skin grafting?

- a) Capillary leakage results from inadequate cooling of burn wounds after injury.
- b) Epithelialization signals the end of burn wound healing.
- c) Diffusion allows skin grafts to survive before neovascularization,
- d) Routine exposure to UV light may help speed repigmentation of the healing burn wound.

46. Which of the following is correct regarding inhalation injury in burn patients?

- a) The admission chest radiograph is useful for ruling out inhalation injury on admission.
- b) Supraglottic inhalation injury may necessitate intubation even if gas exchange is initially unaffected.
- c) With proper pulmonary toilet, pneumonia is an unusual complication of smoke inhalation.
- d) Smoke inhalation is basically just a subset of acute respiratory distress syndrome

47. Select the true statement regarding inhalation of toxic gases:

- a) Hydrogen cyanide is not a component of smoke in most house fires in the United States.
- b) Burn-injured patients with significant carboxyhemoglobin levels are best treated at a center with hyperbaric oxygen (HBO) capabilities.
- c) CO poisoning is best treated with amyl nitrate (available in antidote kits) if administered within 2 hours of injury.
- d) CO poisoning should be treated until carboxyhemoglobin levels are less than 10% and the patient is asymptomatic.

48. Which of the following is correct regarding ARDS in burn patients?

- a) Hypercapnia is detrimental to healing of burn wounds.
- b) ARDS is a frequent cause of mortality from respiratory failure in burn patients.
- c) ARDS and pulmonary edema are due to massive fluid overload, which leads to left heart failure.
- d) ARDS is most likely to develop in burn-injured patients with combined cutaneous burns and smoke inhalation.

49. Regarding zones of the burnt area, all are true, except:

- a) Tissues in the zone of hyperemia recover within 7-10 days unless subjected to infection.
- b) Zone of hyperemia in third degree burns is mottled and moist due to exudation of plasma.
- c) In the zone of coagulation, the eschar separates within 21 days leaving a revascularized bed in partial thickness burns.
- d) In the intermediate zone, viable tissues may die over the next 48 hours if tissue perfusion is not maintained

50. Hypermetabolism in severe burns is related to:

- a) Hypocortisolemia
- b) Hepatic glycogen synthesis
- c) Hyperinsulinemia
- d) Glutamine synthesis.

51. In parkland's formula, the initial fluid replacement in 1st day is:

- a) 5% glucose
- b) Normal saline
- c) Ringer lactate
- d) Normal saline + Ringer lactate.

52. In the rule of nines:

- a) Front of trunk → 27%
- b) Each lower limb → 18%
- c) Head and neck → 18 %
- d) All of the above.

53. Following full thickness burn, the upper extremity becomes cyanotic & cool with delayed capillary refill, loss of pulses & no flow signal on Doppler ultrasound exam. Immediate treatment should include:

- a) Amputation
- b) Arteriogram
- c) Escharotomy.
- d) IV heparin.

54. A surgical procedure done on acute burn to guard against compartmental syndrome:

- a) Skin graft.
- b) Tangential excision.
- c) Escharotomy.
- d) Escharectomy

55. Which of the following describes a flap that's raised with its blood vessels and anastomosed with the recipient site blood vessels:

- a) Local flap
- b) Distant flap
- c) Regional flap
- d) Free flap

56. all the following statements about pathology of burns are true, except:

- a) An intermediate burn involves 15-30% in adults and between 10-30% in children.
- b) If no infection occurs after a second degree burn, epithelium can regenerate from remnants of hair follicles and sweat glands in 3 weeks.
- c) In treatment of third degree burn, grafting should be immediate after excision of the dead tissue.
- d) The rule of nine should be modified in children as the size of the head is large in relation to the whole body.

57. A 48-year-old male is admitted with a burn affecting the entire circumference of his upper arm. Following initial resuscitation, he was admitted for observation. He started to complain of increasing pain and tightness in his forearm. Examination revealed weak peripheral pulses, paraesthesia and pain on active movement of fingers, the next step of management is:

- a) Angiography
- b) Fluid resuscitation
- c) Escharotomy
- d) Electrolyte assay and replenishment.

58. When determining the depth of a burn, the false statement is:

- a) Knowledge of the type of injury is important.
- b) Sensibility on pricking the burned area indicates a full thickness loss.
- c) The presence of severe pain occurs with superficial burns.

59. The most useful measure in preventing renal shutdown in post-burn patients is:

- a) Maintaining an hourly urine output between 30 and 50ml.
- b) Alkalinization of the urine.
- c) Mannitol administration.
- d) Blood transfusion

60. Which of the following statement regarding grafts is untrue?

- a) Split-skin grafts are sometimes known as Thiersch grafts.
- b) Full-thickness grafts are useful in small areas e.g. fingers, eyelids, or the face.
- c) Split-skin grafts produce a superior cosmetic result compared with full-thickness grafts.
- d) Scars placed in 'the lines of election' or lines of minimal tension produce best cosmetic results

61. Which of the following statements regarding burn complications is false?

- a) Cell-mediated immunity is increased in major burns.
- b) Malabsorption from gut damage is a known complication in a burned patient.
- c) Circumferential full-thickness burns of a limb can result in ischaemia.
- d) A change in voice is an important clinical sign in a burned patient.

62. Which of the following statements is false?

- a) The depth of a burn can initially be assessed from the offending temperature, time of application and nature of the causative agent.
- b) Electric contact burns are almost certainly full-thickness.
- c) Deep, partial-thickness burns involve destruction of the whole dermis.
- d) Sensation is totally absent in a full- thickness burn.

63. Which of the following statements is false?

- a) Infection control requires attention to hand washing and cross-contamination prevention.
- b) A rise or fall in white cell count and a decreasing clinical status are signs of infection.
- c) Swabs taken from the burn and sputum are of no use in building a picture of patient's flora.
- d) Catheter tips are a possible source of an infection.

64. Partial thickness burn:

- a) Have a pale white appearance.
- b) Are painless and insensitive.
- c) Are sensitive to air.
- d) Commonly result from contact with concentrated chemicals.

65. Major burns:

- a) Result in a decrease in the metabolic rate.
- b) Are associated with cardiogenic shock.
- c) Can cause adult respiratory distress syndrome.
- d) To chest do not require escharotomy.

66. The appropriate management of a deep partial-thickness burn is:

- a) Early excision and grafting.
- b) Surgical debridement and dressings.
- c) Dressings only.
- d) Observation.

67. The best dressing is:

- a) Swab.
- b) Skin.
- c) Gauze.
- d) Aerosol plastic spray.

68. Regarding skin grafts:

- a) Split thickness skin grafts contain epidermis only.
- b) Split thickness graft maintains their own blood supply from the donor area.
- c) Thinner split skin grafts are more likely to "take" in the recipient area than thicker ones.
- d) Split thickness grafts have a less incidence of contracture than full thickness grafts.

69. Which of the following should be used for burn wound analgesia during resuscitation?

- a) Morphine given IV.
- b) Tylenol given by mouth
- c) Morphine given IM.
- d) Demerol given by vein

70. Injury from smoke inhalation during a house fire occurs from which of the following?

- a) Excessive coughing
- b) Splinting leading to atelectasis
- c) Plugging of airways from concentration of soot
- d) Toxic chemicals in smoke particles

71. Select the true statement regarding the epidemiology of burn injury:

- a) Young adult men are the most likely to suffer burn injury.
- b) The most common cause of death after admission for burn injury is airway occlusion.
- c) Scalding is the most common cause of burns in children younger than 5 years.
- d) Prevention does not have a significant impact on the incidence or mortality of burn injury.

72. Which of the following regarding burn wound depth is true?

- a) Body surface area (TBSA) burned in large, mixed-depth wounds.
- b) Second-degree burns characteristically cause erythema, pain, and blistering.
- c) Third-degree burns are generally painful and extremely sensitive to touch.
- d) Fourth-degree burns mandate amputation of the involved extremities.
- e) Superficial partial-thickness burn is the contemporary term for first-degree burns.

73. Select the true statement regarding infection in burn patients.

- a) A scheduled rotation of central line insertion sites significantly decreases the rate of catheter line sepsis.
- b) Selective decontamination of digestive flora reduces systemic infection.
- c) Gram-positive organisms are the most significant cause of delayed burn wound infection.
- d) Invasive infection may convert second-degree burn wounds to full-thickness injury and necessitate skin grafting for closure.

6- Multiple injuries patient

1. The preferred definite airway in a patient with suspected fracture of the larynx and failed endotracheal intubation is:

- a) Surgical cricothyroidotomy.
- b) Tracheostomy.
- c) Needle cricothyroidotomy.
- d) None of the above

2. A 36-year-old woman was ejected from her car during a head-on collision with a truck. On arrival to A&E her pulse rate is 120/min, blood pressure 80/60 mmHg and she has engorged neck veins. Her chest is clear with equal and good air entry on both sides on auscultation. The most likely diagnosis is:

- a) Hemothorax.
- b) Tension pneumothorax.
- c) Cardiac tamponade.
- d) Neurogenic shock.

3. The following feature is useful in the differentiation of neurogenic from cardiogenic shock:
 - a) Altered consciousness.
 - b) Decreased urine output.
 - c) Hypotension without tachycardia
 - d) Hypoxia
4. The most common cause of shock in a trauma patient is:
 - a) Hemorrhagic shock.
 - b) Septic shock.
 - c) Neurogenic shock.
 - d) Cardiogenic shock.
5. The normal blood volume of a 70 kg adult male is:
 - a) 7% of body weight.
 - b) 15 % of body weight.
 - c) 5 % of body weight.
 - d) 10% of body weight.
6. A 23-year-old male is brought into ER after being stabbed in the left upper quadrant by a rival gang member. On arrival he is anxious and confused, his pulse rate is 140/min, blood pressure 80/60 mmHg, respiration rate 30/min and urine output 5-15 ml/hour. The approximate amount of blood loss in this patient is:
 - a) 500-750ml.
 - b) 750-1,500ml.
 - c) 1,500-2,000ml.
 - d) >2,000ml.
7. A 30-year-old male driver of a car involved in a road traffic incident is brought into ER. On arrival he is anxious with a pulse rate of 120/min, BP 80/50mmHg and respiratory rate 30/min. He is given 2 liters of crystalloids after which his blood pressure improves to 110/70 mmHg and his pulse rate to 100/min. The A&E team decides to transfuse him. The type of blood that can be used in this scenario is:
 - a) Fully cross-matched blood.
 - b) Type specific blood.
 - c) O- blood
 - d) O+ blood
8. A simple and reliable measure that helps in the identification of adequate tissue perfusion, in a shock patient is:
 - a) Central venous pressure.
 - b) Urine output.
 - c) Normalization of tachycardia.
 - d) Mean arterial pressure.
9. A pronounced increase in central venous pressure can be caused by all of the following conditions, except:
 - a) Cardiac tamponade.
 - b) Tension pneumothorax.
 - c) Massive blood transfusion.
 - d) Neurogenic shock.
10. The most common site used for intra-osseous infusion in children is the:
 - a) Iliac crest.
 - b) Antero-medial surface of the proximal tibia.
 - c) Greater trochanter.
 - d) Neck of the humerus.
11. Which of the following radiographs are not included as part of trauma series?
 - a) X-ray of the chest.
 - b) X-ray of the pelvis.
 - c) X-ray of the cervical spine.
 - d) X-ray of the abdomen.

- 12. In a patient with suspected urethral injury, urethral integrity should be confirmed by which one of the following investigations before insertion of a urinary catheter?**
- a) Retrograde urethrogram.
 - b) Computed tomography.
 - c) Voiding cystourethrogram.
 - d) Ultrasound of abdomen.
- 13. A 30-year-old male patient with a flail chest is intubated and considered for transfer to the nearest trauma center for further management. The proper position of the endotracheal tube should be confirmed by:**
- a) Arterial blood gas analysis.
 - b) Capnography.
 - c) Chest X-ray.
 - d) Pulse oximetry.
- 14. Which of the following tests is useful in the confirmation of the location of the endotracheal tube?**
- a) Arterial blood gas analysis.
 - b) Pulse oximetry.
 - c) Capnography.
 - d) Electrocardiography.
- 15. Pulse oximetry does not measure:**
- a) Partial pressure of oxygen.
 - b) Partial pressure of carbon dioxide.
 - c) Oxygen saturation of haemoglobin.
 - d) A and b.
- 16. A simple, non-invasive test that is useful in the detection of intra-abdominal fluid in trauma patients is:**
- a) Diagnostic peritoneal lavage.
 - b) Focused abdominal sonography for trauma (FAST) scan.
 - c) Ct scan.
 - d) X-ray of abdomen.
- 17. The best way to provide oxygenation to a patient with facial trauma is:**
- a) Laryngeal mask.
 - b) Endotracheal intubation.
 - c) Oral airway.
 - d) Nasopharyngeal airway.
- 18. Which of the following describe the complications associated with positive pressure ventilation?**
- a) ↑cardiac output, ↑preload, ↑peripheral vascular resistance, ↓afterload
 - b) ↑cardiac output, ↑preload, ↓peripheral vascular resistance, ↓afterload
 - c) ↑cardiac output, ↓preload, ↑peripheral vascular resistance, ↓afterload
 - d) ↓cardiac output, ↑preload, ↓peripheral vascular resistance, ↑afterload.
- 19. Which one of the following is not a definitive airway?**
- a) Tracheostomy.
 - b) Nasopharyngeal intubation.
 - c) Laryngeal mask.
 - d) Endotracheal intubation.

- 20. A 25-year-old male with head injury following a road traffic accident is brought into A&E. On examination, he has a cervical collar in situ. He is talking inappropriately, opening his eyes and able to move both lower limbs following painful stimuli. The best method to secure this patient's airway is:**
- a) Laryngeal mask.
 - b) Endotracheal intubation.
 - c) Laryngeal airway.
 - d) Multi-lumen esophageal airway.
- 21. In perforation peritonitis free sub-diaphragmatic gas on an erect chest X-ray is seen approximately in:**
- a) <10%.
 - b) >70%.
 - c) 90%.
 - d) 25%.
- 22. The disadvantages of diagnostic peritoneal lavage (DPL) include all of the following, except:**
- a) It does not identify the organ of injury.
 - b) Retroperitoneal injuries can be missed.
 - c) Pelvic fracture can give false positive results.
 - d) It can be carried out in A&E.
- 23. Which one of the following statements with regard to a positive diagnostic peritoneal lavage (DPL) is incorrect?**
- a) Red cell count <100,000/ mm^3 .
 - b) White cell count >500/ mm^3 .
 - c) Presence of amylase.
 - d) Presence of bowel contents in DPL fluid.
- 24. A 30-year-old male driver is brought into ER following a head-on collision with another car. At the time of arrival, his blood pressure is 80 mmHg, pulse rate 100/min and respiratory rate 28/min. On examination, there is mild tenderness over the lower chest and generalized abdominal tenderness particularly over the right upper abdomen. Chest X-ray reveals 10th and 11th rib fractures. Pelvic X-ray shows fracture of both pubic rami. There is no improvement in his vital signs despite fluid resuscitation. Focused abdominal sonography for trauma (FAST) scan shows a large amount of fluid in the Morrison pouch. The management of this patient includes:**
- a) Laparotomy.
 - b) Pelvic angiography and embolization of bleeding vessels.
 - c) Stabilization of the pelvis followed by laparotomy.
 - d) Laparotomy followed by pelvic stabilization.
- 25. Abdominal compartment syndrome is defined as a sustained intra-abdominal pressure of more than:**
- a) 20 mmHg.
 - b) 15 mmHg.
 - c) 45 mmHg.
 - d) 12 mmHg.
- 26. All of the following changes are associated with raised intra-abdominal pressure, except:**
- a) Decreased central venous pressure.
 - b) Increased airway pressure.
 - c) Reduction in tidal volume.
 - d) Decreased renal output.

- 27. Raised intra-abdominal pressure is associated with all of the following changes in cardiac function, except:**
- a) Decreased cardiac output.
 - b) Increased central venous pressure.
 - c) Increased preload.
 - d) Decreased stroke volume.
- 28. Increased intra-abdominal pressure is associated with all of the following changes in respiratory function, except:**
- a) Increased lung compliance.
 - b) Increased airway pressure.
 - c) Diaphragmatic splinting.
 - d) Reduction in tidal volume.
- 29. The ebb phase of stress response is associated with which one of the following changes:**
- a) Increased resting energy expenditure.
 - b) Increased glucose intolerance.
 - c) Increased glycogenolysis.
 - d) Increased gluconeogenesis.
- 30. Glucose is the main source of energy for which of the following structures:**
- a) Leukocytes, red blood cells (RBC), brain.
 - b) Leukocytes, RBC, brain, kidney.
 - c) Muscle, RBC, leukocyte, brain.
 - d) Brain, epithelial cell, leukocyte, muscle.
- 31. C-reactive protein is synthesized in the:**
- a) Leukocyte.
 - b) Lung.
 - c) Liver.
 - d) Small bowel.
- 32. The angle of Louis corresponds to all of the following, except:**
- a) Bifurcation of the trachea.
 - b) Lower border of the 2nd thoracic vertebra.
 - c) Meeting point of both mediastinal pleura.
 - d) The beginning of the ascent of the arch of the aorta.
- 33. The segment of the right lung that is frequently affected by aspiration pneumonia is the:**
- a) Lateral basal segment of the lower lobe.
 - b) Apical segment of the right upper lobe.
 - c) Posterior segment of the right upper lobe.
 - d) Medial segment of the middle lobe.
- 34. Which of the following group of patients are at high risk of airway compromise?**
- a) Unconscious patients with head injuries.
 - b) Patients with a history of alcohol intake.
 - c) Patients with thoracic injuries.
 - d) All of the above.

35. A 35-year-old male driver was brought to ER following a road traffic accident. On arrival to A&E his Glasgow coma score is 15/15. However, he is suspected to have laryngeal trauma. Which of the following signs indicate the presence of laryngeal trauma?

- a) Hoarseness.
- b) Subcutaneous emphysema.
- c) Palpable fracture of the larynx.
- d) All of the above.

36. The relative contraindications for nasotracheal intubation include:

- a) Bilateral ecchymosis of the periorbital region.
- b) Presence of post-auricular ecchymosis.
- c) Presence of cerebrospinal fluid (CSF) otorrhea.
- d) All of the above.

37. Noradrenaline does not cause:

- a) Increased heart rate.
- b) Increased stroke volume.
- c) Increased mean arterial pressure.
- d) Vasoconstriction.

38. Dopamine does not cause:

- a) Increased heart rate.
- b) Decreased stroke volume.
- c) Increased mean arterial pressure.
- d) Vasoconstriction.

39. The inotrope of choice in patients with suspected low cardiac output in the presence of adequate left ventricular filling pressure is:

- a) Dopamine.
- b) Dobutamine.
- c) Noradrenaline.
- d) Adrenaline.

40. Which one of the following conditions does not produce mediastinal shift?

- a) Collapse of lung.
- b) Hemothorax.
- c) Pneumothorax.
- d) Consolidation.

41. In blast injury, which of the following organs is least vulnerable to the blast wave?

- a) Small bowel.
- b) Lungs.
- c) Liver.
- d) Ear drum.

42. A 15 -year-old boy presents to A&E following a road traffic accident with left upper quadrant pain. On clinical examination, his pulse rate is 100/min, blood pressure. 110/60 mmHg and tenderness over the left 9th and 10th ribs. Chest X-ray shows fractures of the 9th, 10th and 11th ribs. An urgent CT abdomen shows free fluid around the spleen and splenic laceration with no leakage of contrast. The most appropriate treatment is:

- a) Observation.
- b) Splenectomy.
- c) Arterial embolization.
- d) Splenorrhaphy.

43. The most common organ injured in a penetrating abdominal injury is the:

- a) Liver.
- b) Spleen.
- c) Colon.
- d) Small bowel.

- 44. The most common cause of death in penetrating injury to the chest is:**
- a) Chylothorax.
 - b) Pulmonary contusion.
 - c) Tracheobronchial injury.
 - d) Esophageal rupture.
- 45. The treatment of choice in severe flail chest is:**
- a) Strapping.
 - b) Intercostal nerve block.
 - c) Fixation of the fractured ribs with wire.
 - d) Intermittent positive pressure ventilation (IPPV).
- 46. What is the quickest way of assessing the airway?**
- a) Use spirometer.
 - b) Listen for breathing.
 - c) See if the patient can talk to you.
 - d) Look in the mouth for any obstructions.
- 47. The initial maneuver to establish an airway in a patient with multiple injuries is:**
- a) Oropharyngeal airway.
 - b) Cuffed endotracheal tube.
 - c) Uncuffed endotracheal tube.
 - d) Suctioning foreign debris and lifting up the mandible (jaw lift).
- 48. A 28-year-old male was injured in a motorcycle accident in which he was not wearing a helmet. On admission to the emergency room he was in severe respiratory distress and hypotensive (blood pressure 80/40 mmHg), and appeared cyanotic. He was bleeding profusely from the nose and had an obviously open femur fracture with exposed bone. Breath sounds were decreased on the right side of the chest. The initial management priority should be:**
- a) Control of hemorrhage with anterior and posterior nasal packing.
 - b) Tube thoracostomy in the right hemithorax.
 - c) Endotracheal intubation with in-line cervical traction.
 - d) Obtain intravenous access and begin emergency type O blood transfusions.
- 49. 30-year-old arrives at the emergency department after RTA. On admission his pulse rate was 120/minute, BP was 100/60 mmHg. US examination revealed laceration of the lower pole of the spleen and hemoperitoneum. He was resuscitated with blood and fluid. Two hours later, his pulse was 84/minute and BP was 120/70 mmHg. The most appropriate course of management in this case would be:**
- a) Exploring the patient followed by splenectomy.
 - b) Exploring the patient followed by excision of the lower pole of the spleen.
 - c) Splenorrhaphy.
 - d) Continuation of conservative treatment under close monitoring system and subsequent surgery if further indicated.

50. A middle aged man is undergoing laparotomy for abdominal trauma. The spleen and liver are both found to be injured. Which of the following is true concerning the management of these injuries?

- a) If the patient has multiple other abdominal injuries and hypotension, splenic salvage should not be attempted.
- b) The incidence of life threatening sepsis in adults following splenectomy is no greater than in the normal population.
- c) All liver injuries regardless of their depth require external drainage.
- d) The Pringle maneuver should control all bleeding from hepatic parenchymal vessels.

51. A 22 years old male driving a car at a high speed and not wearing a seatbelt, leaves a road and crashes with a full frontal impact into a tree. The following injury patterns may be predictable from the type of the motor vehicle accident:

- a) Orthopedic injuries involving femur or knees or hips.
- b) Laceration of aorta.
- c) Hyperextension of the neck with cervical spine injury.
- d) Diaphragmatic rupture due to increase in intra-abdominal pressure.

52. A 30-year-old man is brought to the emergency department after being involved in a Jet Ski crash. His vital signs are stable. A high-riding prostate is noted on rectal examination. On portable pelvic radiographs he is found to have bilateral pubic rami fractures. He has not yet voided since admission. Which of the following should be the next step?

- a) Wait for the patient to void freely before attempting transurethral bladder catheterization.
- b) Initially attempt gentle transurethral bladder catheterization, but stop if resistance is encountered.
- c) Obtain a urethrogram before attempting transurethral bladder catheterization.
- d) Perform computed tomography of the pelvis with three-dimensional reconstruction.

53. A 32-year-old construction worker is taken to the emergency department after having fallen off a roof 4 hours earlier. He has no neurologic function below cervical spine level 5. CT shows C₅ and C₆ anterior wedge fractures. With compromise of the spinal canal. Which of the following statements is true regarding this type of injury?

- a) The current treatment standard is to administer methylprednisolone intravenously on arrival at the emergency department.
- b) Approximately 50% of all spinal fractures occur in the cervical vertebrae.
- c) Neurogenic shock is characterized by hypertension with bradycardia.
- d) Only 15% of patients with neck pain have a true cervical spine injury.

- 61. A male patient is admitted following a fall from height. On arrival his Glasgow coma scale score is 5/15 and he is therefore intubated. During primary resuscitation a chest film is taken which shows a widened mediastinum and right-sided deviation of the trachea. The diagnosis:**
- a) Tension pneumothorax.
 - b) Cardiac tamponade
 - c) Right lobe collapse
 - d) Aortic rupture
- 62. Which of the following is not an independent indication for laparotomy following trauma?**
- a) Stab wound to anterior abdomen
 - b) Evisceration of healthy bowel
 - c) Evisceration of omentum
 - d) Gun shot to abdomen.
- 63. An 18-year-old man is admitted to the intensive care unit for multiple blunt trauma approximately 12 hours ago. His injuries include bilateral femur fractures. He is noted to be confused and appears to have difficulties catching his breath. The pulse oximeter reads O₂ saturation of 93% with the administration of 100% oxygen by face mask. His lungs are clear bilaterally. His chest X-ray reveals clear lung fields bilaterally and a normal cardiac silhouette. Which of the following is the most likely cause of his clinical picture?**
- a) Pulmonary contusion
 - b) Occult pneumothorax
 - c) ICU psychosis
 - d) Fat embolism
- 64. A 43-year-old man was involved in a motorcycle crash when the bike slipped on wet pavement and he hit a tree. In the emergency center, he is noted to have multiple rib fractures, a right tibia fracture, and left forearm fractures. During monitoring in the emergency center, he is found to have a brief period (3 minutes) of supraventricular tachycardia that resolved spontaneously. Which of the following is the most likely etiology for this rhythm abnormality?**
- a) Anxiety disorder
 - b) Fat embolism
 - c) Blunt cardiac injury
 - d) Caffeine-induced arrhythmias
- 65. Which of the following radiographic abnormalities seen on CXR is suggestive of traumatic rupture of the aorta (TRA)?**
- a) Pneumomediastinum
 - b) Sternal fracture
 - c) Enlarged cardiac silhouette
 - d) Widened mediastinum
- 66. Which of the following statements is accurate regarding the use of the pan-CT scan?**
- a) Pan-scans are routinely useful for all trauma patients including those with penetrating trauma
 - b) Pan-scan allows rapid triage and identification of injuries in the unstable trauma patients
 - c) Pan-scan consists of CT of the brain, c-spine, chest, abdomen, and pelvis
 - d) Pan-scan is contraindicated in young adults due to the increased risk of radiation induced malignancies

- 67. Which of the following factors is most likely to contribute to a worse outcome in a patient with a left subdural hematoma and a GCS of 9?**
- a) Blood pressure of 70/50 mmHg recorded for approximately 10 minutes prior to arrival to the hospital
 - b) A right epidural hematoma
 - c) Depressed skull fracture
 - d) Pelvic fracture
- 68. A 32-year-old man is brought to the emergency center after having been stuck by a large branch that broke off a tree and hit the patient on the right side of his head and his right chest area. He is noted in the emergency department to have a large right parietal scalp hematoma, right cheek deformity, and right chest wall deformity associated with diminished right sided breath sounds. His pulse rate is 110 beats/ minute, blood pressure is 120/70 mmHg, respiratory rate is 30 breaths/minute, and GCS is 13. Which of the following is the most appropriate next step?**
- a) Endotracheal intubation
 - b) Right chest tube placement
 - c) CT of the brain
 - d) FAST
- 69. A 40-year-old unrestrained man was the driver of a car that crashed into a tree when his car apparently veered off the road. He was brought to the emergency center, and after his initial resuscitation and evaluation, he is found to have multiple superficial scalp lacerations, a left subdural hematoma with no associated midline shift, and a GCS of 14. A 60% left pneumothorax was noted on CXR, and left tibia and fibula fractures with diminished left pedal pulses are noted. Which of the following is the most appropriate sequence of prioritization for this patient's injuries?**
- a) Brain injury, pneumothorax, lower extremity injuries, and facial lacerations
 - b) Pneumothorax, lower extremity injuries, facial lacerations, and brain injury
 - c) Pneumothorax, lower extremity injuries, brain injury, and facial lacerations
 - d) Pneumothorax, brain injury, lower extremity injuries, and facial lacerations
- 70. A 34-year-old man was an unrestrained passenger in a high-speed MVC and sustained fractured femur as well as blunt abdominal trauma. After stabilization of the patient, the trauma team ordered a CT scan of the abdomen. Which of the following statements is true regarding CT of the abdomen for blunt trauma evaluation?**
- a) It is costly and time consuming and should not be used when the FAST or DPL is available
 - b) Highly sensitive and specific for solid organ injury identification but lacks sensitivity for retroperitoneal injury identification
 - c) Highly sensitive and specific for solid organ identification but lacks sensitivity and specificity for hollow viscus injury identification
 - d) Highly sensitive and specific for solid-organ injuries and intraperitoneal blood identification, and useful for both stable and unstable patients

- 71. A 73-year-old man is seen after falling down a flight of stairs. He arrives on a backboard with c-collar in place. His initial pulse rate is 70 beats/ minute, blood pressure is 160/80 mmhg, respiratory rate is 10 breaths/ minute, and GCS is 6. He has a large scalp hematoma, dilated and nonreactive left pupil, and a large bruise over his left flank. Which of the following is the most appropriate treatment?**
- a) O₂ by face mask, intravenous fluids, obtain a pan-CT scan, and request a neurosurgery consultation
 - b) Endotracheal intubation, intravenous fluids, obtain a CT of the brain and abdomen, and obtain a neurosurgical consultation
 - c) Endotracheal intubation, intravenous fluids, FAST examination, perform a bedside left decompressive craniotomy
 - d) Endotracheal intubation, intravenous fluids, perform a FAST examination, CT of the brain, and neurosurgical consultation
- 72. If a patient presents with profound shock after a high-speed motor vehicle accident, what is the most important thing to do initially for the patient?**
- a) Intubate the patient
 - b) Obtain large bore IVS
 - c) Resuscitate the patient with crystalloid
 - d) Administer hemostatic resuscitation
- 73. What is the first line treatment for a patient in hemorrhagic shock after major trauma?**
- a) 2 liter of crystalloid
 - b) 1 liter of hypertonic saline
 - c) Fresh frozen plasma
 - d) Platelets
- 74. If a patient is hypotensive from hemorrhagic shock and has a bleeding wound from their extremity, the first line of treatment should be:**
- a) Administer blood products
 - b) Apply direct pressure
 - c) Place a tourniquet above the wound
 - d) Perform emergency surgery in the emergency department
- 75. Hemostatic resuscitation means giving packed RBCS/FFP/platelets in what ratio:**
- a) 1:2:1
 - b) 1:3:2
 - c) 1:1:1
 - d) 2:1:1
- 76. What are the indications for emergent exploration after penetrating trauma to the abdomen?**
- a) Evisceration
 - b) Intractable shock
 - c) Peritonitis
 - d) All of the above
- 77. If the patient is in shock with distended neck veins and midline trachea, what is the diagnosis for this patient?**
- a) Pericardial tamponade
 - b) Tension pneumothorax
 - c) Heart failure
 - d) Hemothorax

- 78. A 25-year-old man presents with a stab wound to the abdomen 2cm above the umbilicus. He appears diaphoretic. His blood pressure is 95/70 and pulse rate is 115 beats/ minute. His stab wound is not bleeding and his abdomen is diffusely tender. Which of the following management options is most appropriate?**
- a) Abdominal CT scan
 - b) Diagnostic peritoneal lavage
 - c) Local wound exploration
 - d) Exploratory laparotomy
- 79. An 18-year-old man sustains a stab wound to the left upper quadrant of his abdomen. He complains of minimal pain. He is alert, hemodynamically normal, and his abdominal examination is essentially normal. Which of the following statements is true?**
- a) An abdominal CT scan is sensitive in detecting injury to the diaphragm
 - b) The FAST examination reliably rules out intra-abdominal injury in this patient
 - c) If the local wound exploration reveals fascia penetration, it would be an absolute indication for abdominal exploration
 - d) Intra-abdominal injury is highly unlikely in this patient
 - e) The patient should be admitted for clinical observation for 24 hours
- 80. A 33-year-old woman presents with a stab wound located at the right anterior axillary line, 3cm superior to the right costal margin. She is alert and has normal mentation. Her blood pressure is 198/60 mmHg and pulse rate is 100 beats/minute. Which of the following is the most appropriate next step?**
- a) Listen to the patient's breath sounds
 - b) Obtain an upright CXR
 - c) Place a right chest tube
 - d) Perform a FAST
- 81. A 36-year-old man was stabbed in the right lower quadrant of his abdomen one hour prior to presentation to the emergency center. He complains of pain at the wound site. His vital signs are normal. Local wound exploration reveals penetration of the anterior abdominal fascia, and a DPL performed reveals 7000 RBC/mm³ and 750 WBC/mm³. Which of the following is the most appropriate next step?**
- a) Repeat the DPL in 4 hours
 - b) Obtain an abdominal CT scan
 - c) Perform a diagnostic laparoscopy
 - d) Perform a laparotomy
- 82. A 22-year-old man presents with a single stab wound to the epigastrium. The patient is diaphoretic and somnolent. His pulse rate is 120 beats/minute, blood pressure is 80/60 mmHg, respiratory rate is 8, and GCS is 8. He has a single stab wound 6 cm below the xiphoid process. His CXR does not demonstrate evidence of hemothorax or pneumothorax. His FAST demonstrates free fluid in the pericardial space and free fluid in the subhepatic space. Which of the following is the best next step in management?**
- a) DPL
 - b) CT of the chest and abdomen
 - c) Exploratory laparotomy
 - d) Median sternotomy

Chapter II: surgical nutrition

1- Water and electrolytes

1. Total body water in adult 70 kg male is about:

- a) 35 kg. b) 42 kg. c) 50 kg d) 55 kg

2. Intracellular water in adult 70 kg male is about:

- a) 20 kg. b) 28 kg c) 35 kg d) 40 kg

3. The main intracellular buffer system is:

- A) Bicarbonate. C) Plasma proteins.
B) Phosphate. D) Cytoplasmic proteins.

4. The normal base deficit is:

- a) -2 to +2. c) -10 to +10.
b) -5 to +5. d) -1 to +1.

5. All of the following are electrocardiographic features of hyperkalemia, except:

- a) Prolonged PR interval. c) Sine wave patterns.
b) Prolonged QT interval. d) Loss of P waves.

6. Hypochloremia, hypokalemia and metabolic alkalosis are seen in:

- a) Congenital hypertrophic pyloric stenosis.
b) Hirschsprung's disease.
c) Esophageal atresia.
d) Jejunal atresia.

7. Persistent vomiting can cause all of the following, except:

- a) Hypokalemia. c) Elevated blood PH.
b) Decreased k^+ in the urine. d) Metabolic alkalosis.

8. The normal range of serum osmolality (in mOsm/L) is:

- a) 270 to 285. c) 350 to 375.
b) 300 to 320. d) 200 to 250.

9. In acute respiratory alkalosis bicarbonate level:

- a) Increases. c) Decreases.
b) Remains constant. d) None of the above.

10. Hypernatraemia can present by:

- a) Irritability. c) Twitches.
b) Hyperreflexia. d) All of the above.

11. Which of the following is significantly changed if an isotonic saline solution is added or lost from the body?

- a) Intracellular compartment.
- b) Interstitial compartment.
- c) Extracellular compartment.
- d) All body compartments.

12. A 34-year-old male, a known case of ulcerative colitis, presented to the emergency room with severe diarrhea, weakness, and his ECG showed prolongation of the QT wave. This patient is suffering mainly from:

- a) Hyponatremia.
- b) Hypokalemia.
- c) Metabolic alkalosis.
- d) Respiratory acidosis

13. Hypokalemia causes:

- a) Peaked P waves.
- b) Adynamic ileus.
- c) Hyper-reflexia.
- d) All of the above.

14. The earliest sign of hypocalcaemia is

- a. Carpopedal spasms.
- b. Positive Chvostek's sign.
- c. Positive Trousseau's sign.
- d. Tingling of fingers and circumoral region.

15. Which of the following regarding normal saline is true?

- a) It has the same sodium concentration as plasma.
- b) It has equimolar concentration of sodium and chloride.
- c) It is low in potassium.
- d) It is the best fluid to be used in hypovolemia.

16. Regarding potassium imbalance and therapy all are true except:

- a) 50% Dextrose with regular insulin is the emergency therapy for life threatening hyperkalemia
- b) Plasma potassium rises in presence of acidosis
- c) Plasma potassium reflects body potassium
- d) Potassium deficits should be fully corrected within the first 24 hours of therapy

17. A 55-year-old man presents with frequency of urine and excessive thirst. He also experiences muscle cramps and has a 5-year history of hypertension that is being managed conservatively. Blood tests show his capillary glucose is 4.1 mmol/L, sodium is 149 mmol/L, and potassium is 3.1 mmol/L. The most likely diagnosis is:

- a) Hyperparathyroidism.
- b) Pheochromocytoma.
- c) Conn's syndrome.
- d) Cushing syndrome.

18. Extracellular osmolality in a healthy adult:

- a) More than intracellular osmolality.
- b) Less than intracellular osmolality.
- c) Same as intracellular osmolality.
- d) Any of the following depending on fluid intake.

19. Which of the following electrolytes contribute to ECF osmoles:

- a) Na^+
- b) Cl^-
- c) HCO_3^-
- d) All of the above.

20. All of the following would occur with increase in plasma osmolality except:

- a. Concentrated urine.
- b. Thirst.
- c. Release of ADH.
- d. Production of large amounts of urine.

21. In treatment of decompensated hemorrhagic shock the ideal iv fluid therapy while waiting for blood transfusion:

- a) Dextrose 5%
- b) Normal saline
- c) Colloid.

22. Regarding crystalloid and colloid solutions all are true except:

- a) Normal saline contains 154 mmol sodium and 154 mmol chloride.
- b) Hartmann's solution contains calcium and bicarbonate.
- c) Albumin has a half-life in the circulation of about 15 hours.
- d) Dextran reduce platelet aggregation and can induce anaphylaxis on daily maintenance.

23. The major anion in the intracellular fluid is:

- a) Phosphate.
- b) Chloride.
- c) Calcium.
- d) Sulphate.

24. Concerning the sodium ion, which statement is untrue among the following:

- a) Diffuses readily through cell membranes.
- b) Is the major cation of the extracellular fluid.
- c) Is the chief regulator of body water.
- d) Its urinary excretion is reduced after trauma.

25. Hypernatremia can be associated with all the following except:

- a) A rise in plasma osmolality.
- b) Loss of body water.
- c) Inadequate urinary concentration
- d) A good response to treatment by fluid restriction.

26. The percentage of potassium in the extracellular fluid is:

- a) 2%
- b) 10%
- c) 20%
- d) 25%

27. Potassium concentration is highest in:

- a) Bile.
- b) Succus entericus
- c) Gastric juice.
- d) Blood.

28. Hypocalcemia:

- a) Depolarization is prevented.
- b) PTH production is reduced.
- c) Blood calcium levels are increased.
- d) Neuromuscular excitability increases

29. All the following statements are true about hypomagnesaemia, except:

- a) Magnesium is the second most abundant intracellular cation.
- b) It plays a fundamental role in many functions of the cell, including energy transfer.
- c) The CV effects of hypomagnesaemia are similar to those of hypokalemia.
- d) Hypomagnesaemia is usually accompanied by hyperphosphatemia.

30. Concerning the regulation of calcium and phosphate, which of the following statements are true?

- a) Vitamin d increases calcium absorption from the gut.
- b) Parathyroid hormone promotes phosphate excretion.
- c) Vitamin d promotes calcium reabsorption in the kidney.
- d) All are true.

31. In health the ratio of bicarbonate to carbonic acid is normally:

- a) 10:1.
- b) 15:1.
- c) 20:1.
- d) 30: 1

32. The three most important buffer systems in body fluids include the bicarbonate buffer system, the Buffer system, and the protein buffer system.

- a) Calcium.
- b) Phosphate.
- c) Sodium.
- d) Hemoglobin.

33. The ideal infusion fluid for correction of hypokalemic alkalosis due to pyloric Obstruction is:

- a) Normal saline.
- b) Potassium chloride in 5% glucose.
- c) Ringer's solution.
- d) Ammonium chloride.

34. Prolonged diarrhea can cause:

- a) Metabolic acidosis and dehydration.
- b) Metabolic alkalosis and dehydration.
- c) Metabolic acidosis and hypoventilation.
- d) Metabolic alkalosis and hyperventilation.

35. In metabolic alkalosis, there is which of the following?

- a) Gain in fixed acid
- b) Loss of base
- c) Hyperkalemia
- d) Rise in base excess

36. A 60-year-old man had undergone exploratory laparotomy for perforated gastric ulcer with severe peritoneal contamination. Six hours after surgery, he is tachycardiac, hypertensive, and has shallow respirations. Intubation and institution of ventilator support is indicated in the presence of which of the following?

- a) Respiratory rate of 23 breaths/min
- b) PaCO₂ of 45 mmHg
- c) PaO₂ of 55 mmHg on room air
- d) HR of 140 bpm

37. Metabolic acidosis is caused by all except:

- a) Hyperaldosteronism.
- b) Septic shock.
- c) Renal failure.
- d) Diabetic ketoacidosis.

38. In "catabolic" surgical patients, which of the following changes in body composition do not occur?

- a) Lean body mass increases.
- b) Total body water increases.
- c) Adipose tissue decreases.
- d) Body weight decreases.

39. The characteristic changes that follow a major operation or moderate to severe injury do not include the following:

- a) Hypermetabolism.
- b) Fever.
- c) Tachypnea
- d) Hyperphagia

40. Hypomagnesaemia resembles the clinical of which one of the following?

- a) Hypokalemia.
- b) Hyperglycemia.
- c) Hyperphosphatemia.
- d) Hypocalcemia.

41. What is the treatment of choice for a patient who has potassium level of 6.5 mmol/L and ECG changes of hyperkalemia?

- a) Calcium gluconate.
- b) Lactated ringer.
- c) Insulin and glucose.
- d) Kayexalate (cation exchange resin).

42. What is the basal daily required amount of water for adults?

- a) 10 ml/kg.
- b) 15 ml/kg.
- c) 35 ml/kg.
- d) 55 ml/kg.

43. Regarding hypokalemia, all the following statements are true, except:

- a) Serum potassium of 2.5 mmol/L is hypokalemia
- b) Hypokalemia causes acidosis.
- c) Severe diarrhea may cause hypokalemia.
- d) Hypokalemia causes muscle weakness.

44. About metabolic acidosis, one statement only is true:

- a) It is caused by pyloric stenosis.
- b) It causes hyperkalemia.
- c) Arterial bicarbonate level is elevated.
- d) PH is above 7.4.

- 45. What is the amount of body water in a full term healthy neonate?**
a) 55 ml/kg. c) 90 ml/kg.
b) 80 ml/kg. d) 110 ml/kg.
- 46. Metabolic acidosis with a normal anion gap (AG) occurs with:**
a) Diabetic acidosis. c) Severe diarrhea.
b) Renal failure. d) Starvation.
- 47. Serum sodium of 129 seen in the immediate postoperative period:**
a) Warrants aggressive treatment with hypertonic saline to prevent seizures.
b) Should be treated with boluses of 0.9% NaCl until corrected.
c) Is a self-limiting problem due to transient increase in antidiuretic hormone secretion.
d) Is due to excessive fluids given intra-operatively.
- 48. The next most appropriate test to order in a patient with a PH of 7.1, pCO₂ of 40, sodium of 132, a potassium of 4.2, and a chloride of 105 is:**
a) Serum bicarbonate. c) Serum ethanol.
b) Serum magnesium. d) Serum salicylate.
- 49. Normal saline is:**
a) 135 mEq NaCl/L. c) 148 mEq NaCl/L
b) 145 mEq NaCl/L. d) 154 mEq NaCl/L.
- 50. Metabolic acidosis with a normal anion gap is found in a patient with:**
a) Alcohol intoxication. c) Diabetic ketoacidosis.
b) Aspirin ingestion. d) Small bowel fistula
- 51. The effective osmotic pressure between the plasma and interstitial fluid compartments is primarily controlled by:**
a) Bicarbonate. c) Potassium ion.
b) Chloride ion. d) Protein.
- 52. The most common fluid disorder in the surgical patient is:**
a) Extracellular fluid deficit
b) Hyperkalemia.
c) Hyponatremia.
d) Metabolic acidosis.
- 53. The first step in the management of acute hypercalcemia should be:**
a) Correction of deficit of extracellular fluid volume.
b) Hemodialysis.
c) Administration of furosemide.
d) Administration of vitamin D.

54. A primary action of aldosterone is to:

- a) Convert angiotensinogen to angiotensin.
- b) Decrease chloride reabsorption in the renal tubule.
- c) Decrease potassium secretion in the renal tubule.
- d) Increase sodium reabsorption in the renal tubule.

55. Which statement among the following is wrong about hyperkalemia:

- a) Results from renal failure, acidosis and over treatment with potassium salts.
- b) Causes tachycardia.
- c) May produce cerebral symptoms.
- d) Causes peaking of the T-waves in the ECG.

56. Metabolic acidosis can be seen with the following except:

- a) Septic peritonitis.
- b) Septic shock.
- c) Pyloric stenosis.
- d) Diabetic coma.

57. The following electrolytes are significantly altered by changes in PH except:

- a) Sodium.
- b) Potassium.
- c) Calcium.
- d) Magnesium.

58. The main role of the kidney in regulation of the acid-base balance is by:

- a) Reabsorbing the filtered bicarbonate.
- b) Reabsorbing H^+ ions.
- c) Excreting bicarbonate.
- d) All of the above.

2- Surgical nutrition

1. Which of the following parameters are used as part of a malnutrition universal screening tool (must) in the assessment of the risk of malnutrition?

- a) Body mass index (BMI).
- b) Percentage of unplanned weight loss in 3-6 months.
- c) Illness of the patient.
- d) All of the above.

2. The contraindications for enteral nutritional support include all of the following, except:

- a) Small bowel obstruction.
- b) Vomiting and diarrhea.
- c) High output intestinal fistula.
- d) Cerebrovascular accident.

3. A 40-year-old male patient develops hypotension following central line insertion for nutritional support. Respiratory examination is unremarkable. Cardiovascular examination reveals a machinery murmur over the mediastinum. Chest x-ray does not show any evidence of widening of the mediastinum, tracheal deviation or collapsed lung. The most likely diagnosis is:

- a) Pneumothorax.
- b) Air embolism.
- c) Hemopneumothorax.
- d) Mediastinal hematoma.

- 4. The most common complication associated with central line insertion is:**
- A) central line infection.
 - B) thrombosis of central vein.
 - C) pneumothorax.
 - D) hemothorax.
- 5. The variable that is not used in the calculation of the nutritional risk index is:**
- a) Serum albumin.
 - b) The patient's current weight.
 - c) Serum transferrin.
 - d) The patient's normal weight.
- 6. Which one of the following statements regarding the adverse effects of malnutrition is incorrect?**
- a) Malnutrition leads to impaired immune responses.
 - b) Malnutrition increases the risk of wound infection and anastomotic leak.
 - c) Malnutrition does not impair thermoregulation.
 - d) Malnutrition predisposes to pressure sores and thromboembolism.
- 7. Which one of the following statements regarding the prevalence of malnutrition in the UK is correct?**
- a) 40% of adults living in care homes have a body mass index (BMI) of less than 20 kg/m².
 - b) <5% of the general population living at home is underweight with a BMI of less than 20 kg/m².
 - c) 10% of adults with chronic lung and kidney disease living at home are underweight.
 - d) 10-60% of hospitalized patients are at risk of malnutrition in UK hospitals.
 - e) All of the above.
- 8. The indications for enteral tube feeding are:**
- a) Patients with esophageal obstruction secondary to malignancy.
 - b) Patients with small bowel obstruction.
 - c) Patients with short gut syndrome.
 - d) None of the above.
- 9. Which of the following statements regarding gastrostomy tube feeding is incorrect?**
- a) Patients who are likely to require nutritional support for more than 4-6 weeks should be considered for gastrostomy tube feeding.
 - b) Gastrostomy tubes should be left in position for at least 2 weeks before considering removal.
 - c) Patients who are likely to require nutritional support for less than 4 weeks should be considered for gastrostomy.
 - d) Free air is visible in almost 40% of patients following percutaneous gastrostomy (PEG) tube insertions.

10. Which of the following statements regarding daily nutritional requirements is incorrect?

- a) Daily energy requirements are 20-30 kcal/kg/day.
- b) Daily fluid requirements are 30-35 ml/kg/day plus the replacement of additional losses.
- c) Malnourished patients and patients at risk of malnutrition might need low volumes of feed to avoid re-feeding syndrome.
- d) Daily protein requirements are 2.0-2.5 g/kg/day.

11. Which of the following statements regarding re-feeding syndrome is incorrect?

- a) Re-feeding problems arise due to severe deficiency of micronutrients and electrolytes.
- b) To avoid re-feeding problems, feed should be started at high volumes and reduced over a period of time.
- c) Severely malnourished patients are at high risk of developing re-feeding problems.
- d) Patients with low potassium, phosphate and magnesium prior to feeding are at high risk of developing re-feeding syndrome.

12. Which of the following statements regarding the laboratory monitoring of patients on nutritional support is incorrect?

- a) Electrolytes should be checked daily until they are stable.
- b) Calcium and albumin should be checked once before the beginning of nutritional support and then twice weekly.
- c) Magnesium and phosphate should be checked three times a week until stable.
- d) Iron and ferritin levels should be checked once every month.

13. Total parenteral nutrition is indicated in all of the following conditions, except:

- a) Patients with prolonged ileus following recent low anterior resection and abdominal sepsis following an anastomotic leak.
- b) Patients with small bowel fistula due to Crohn's disease.
- c) Patients with short gut syndrome.
- d) In patients following a recent uneventful laparotomy for left hemicolectomy.

14. All the following complications are associated with enteral feeding, except:

- a) Bloating.
- b) Diarrhea.
- c) Cholestasis
- d) Hypophosphatemia.

15. Ventilated patients requiring nutritional support should receive low carbohydrate and high fat ratio nutrition for which one of the following reasons:

- a) High levels of carbohydrate increase CO₂ production.
- b) High levels of carbohydrate increase water requirements.
- c) High levels of carbohydrate delay recovery from surgery.
- d) High levels of carbohydrate cause re-feeding syndrome.

16. Most commercial enteral feed contains:

- a) 10 kcal/ml energy.
- b) 1.0 kcal/ml energy.
- c) 5 kcal/ml energy.
- d) 0.5 kcal/ml energy.

17. Gastrostomy tube feeding is relatively contraindicated in:

- a) Gastro-oesophageal reflux.
- b) Previous gastric surgery.
- c) Ascites.
- d) Extensive gastric ulceration.
- e) All of the above.

Chapter iii: infection

1. Which statement is wrong concerning Clostridium tetani:

- a) Is strict anaerobe.
- b) Is a gram negative bacillus.
- c) Has a drum stick appearance.
- d) Produces highly resistant spores.

2. Gas gangrene infection is characterized by the following, except:

- a) Common to occur in deep wounds of the thigh.
- b) Caused by anaerobic spore-bearing Clostridia.
- c) Has a very short incubation period.
- d) Associated with high fever.

3. The main organism of endotoxin release in multiple organ dysfunction syndrome is:

- a) E. Coli.
- b) Proteus vulgaris.
- c) Pseudomonas.
- d) Acinetobacter.

4. The most important factor influencing prognosis in multiple organ failure is:

- a) Patient age.
- b) The initiating process.
- c) Sequence in which organs failed.
- d) Number of organs that have failed.

5. The tetanospasmin acts by:

- a) Direct stimulation of motor endplate.
- b) Stimulation of bone marrow cells.
- c) Inhibition of cholinesterase.
- d) All of the above.

6. The poorest prognosis in tetanus is when:

- A) contamination of large wound.
- B) spasms are violent and continuous.
- C) spasms brought about by skin stimulus.
- D) spasms appearing within 48 hours of trismus.

7. In a patient of tetanus with severe spasms and cyanosis, the first thing to be done is:

- a) Human tetanus immunoglobulin.
- b) Sedation and nasogastric suction.
- c) Tracheostomy, muscle relaxant and ventilator.
- d) Thorough wound debridement and heavy dose of penicillin.

8. Gas gangrene could be caused by which of the following:

- a) Clostridium novyi.
- b) Clostridium histolyticum.
- c) Clostridium welchii (perfringens).
- d) All of the above.

9. The most lethal exotoxin of Cl. Welchii is:

- a) Haemolysin.
- b) Collagenase.
- c) Lecithinase (alpha toxin).
- d) Deoxyribonuclease.

10. The clostridia of gas gangrene are characterized by the following, except:

- a) Are sensitive to penicillin.
- b) Cannot nourish in dead muscle.
- c) Are anaerobic spore-bearing bacilli.
- d) Occur naturally in the intestinal tract of man and animals.

11. False regarding erysipelas is:

- a) Margins are raised.
- b) Streptococcal infection.
- c) Flaccid bullae may develop.
- d) Usually extend to deeper soft tissues.

12. Regarding Ludwig's angina, all are true except:

- a) Characterized by absence of trismus
- b) Can cause glottis edema and asphyxia
- c) Cellulitis of the floor of mouth in which infection spreads to submental, sublingual and submandibular spaces
- d) Airway management, antibiotic therapy and surgical incision and drainage are the mainstay of treatment.

13. Find the incorrect statement about prophylactic antibiotics against postoperative wound infection:

- a) They are indicated when a prosthetic implant is inserted.
- b) They are started one hour before the operation or with induction of anesthesia.
- c) They reduce the possibility of wound infection in contaminated operations.
- d) Antibiotic administration should be continued for five days after the operation.

14. What is the most effective timing of a specific antibiotic during preparation of the patient for elective colectomy?

- a) A preoperative dose and 24 hrs postoperative doses.
- b) A preoperative dose and 48 hrs postoperative doses.
- c) A single dose given within 30 min prior to skin incision.
- d) A single dose at the time of skin incision.

15. What is the most appropriate antibiotic prophylaxis in patients who are undergoing elective gastroduodenal operations?

- a) Cefazolin.
- b) Clindamycin.
- c) Fluoroquinolone.
- d) Ampicillin-sulbactam.

16. What are the prophylactic antibiotics of choice in colorectal surgery?

- a) Vancomycin.
- b) Ampicillin-sulbactam.
- c) Cefazolin and metronidazole.
- d) Fluoroquinolone with metronidazole.

17. What is the prophylactic antibiotic of choice in neurosurgery?

- a) Cefazolin.
- b) Vancomycin.
- c) Gentamicin and clindamycin combination.
- d) None of the above.

18. What is the appropriate duration of antibiotic therapy in generalized peritonitis with an extensive soiling following perforated descending colon (fecal peritonitis)?

- a) 7-10 days.
- b) 3-5 days.
- c) 10-15 days.
- d) More than 21 days.

19. What is the approximate duration of antibiotic treatment in peritonitis following a perforated appendicitis?

- a) 7-10 days.
- b) 3-6 days.
- c) 14-21 days.
- d) More than 21 days.

20. What is the expected rate of infection in class I clean operation?

- a) < 2%.
- b) 3-9%.
- c) 3.5-13%.
- d) None of the above.

21. What is the most common cause of hepatic abscess in the western countries?

- a) Infection with *Entameba histolytica*.
- b) Biliary tract procedure.
- c) Septicemia.
- d) Neglected diverticulitis.

22. What is the most important factor that contributes to reduction of the incidence of pancreatic abscess in patients with acute necrotizing pancreatitis?

- a) Enteral nutrition.
- b) Prophylactic antibiotics.
- c) Imaging and percutaneous sampling of any fluid collection.
- d) Parenteral nutrition.

23. In tetanus infection the following statements are correct except:

- a) The manifestations are caused by the toxin of *Clostridium tetani*.
- b) The toxin travels along nerves to the central nervous system.
- c) The spasm can stop respiration.
- d) The specific antibiotic is gentamycin.

24. About gas gangrene, one of the following statements is wrong:

- a) Infection is caused by clostridia.
- b) Lacerated deep wounds, foreign bodies, and ischemia are predisposing factors.
- c) Bradycardia is diagnostic.
- d) Crepitus may be elicited.

25. A 17-year-old boy fell from his bicycle in a dusty street 12 hours ago. He had a 2 cm wound on his right knee. On interrogation of his parents we were told that his last tetanus vaccination was when he was 6 years old. The best treatment of this case now is all of the following except:

- a) Clean the wound.
- b) Single dose of 0.5 ml tetanus toxoid IM.
- c) 250 units of tetanus immunoglobulin.
- d) Primary closure of the wound.

26. The treatment of necrotizing fasciitis of the thigh includes all of the following except:

- a) Rest of the patient and the part.
- b) Elevation.
- c) Penicillin and an aminoglycoside antibiotic.
- d) Aspiration of the pus and continuous irrigation with betadine solution.

27. Infections that require operative treatment include all of the following, except:

- a) Empyema.
- b) Infected ascites.
- c) Necrotizing fasciitis of the thigh.
- d) Vascular graft infection.

28. Which of the following is the most commonly acquired infection in hospitalized surgical patients?

- a) Lower gastrointestinal tract.
- b) Upper respiratory tract.
- c) Nasopharynx.
- d) Surgical wound.

29. Staphylococcus aureus produces each of the following, except:

- a) Coagulase.
- b) Enterotoxin.
- c) Leucocidin.
- d) Neuroexotoxin.

30. The drug of choice for Colstridial myonecrosis is:

- a) Penicillin g.
- b) Ampicillin.
- c) Amikacin.
- d) Cephalosporin.

31. Cefuroxime is a:

- a) 1st generation cephalosporin.
- b) 2nd generation cephalosporin.
- c) 3rd generation cephalosporin.
- d) 4th generation cephalosporin.

32. All of the following are causes of secondary infection except,

- a) Poor hand washing technique.
- b) Perforated diverticular disease.
- c) Anastomotic leak.
- d) Inadequate air filtration in the theatre.

33. All of the following statements regarding SSIs are true except,

- a) Infection in the musculo-fascial tissues is known as deep SSI.
- b) The patient may have signs in a minor SSI.
- c) Infection causing a delay in hospital discharge is a major one.
- d) Surveillance for SSI should be done for a year after implanted joint surgery.

34. All of the following statements regarding abscesses are true except,

- a) Staph. Aureus is one of the most common causative organisms.
- b) Most wound-site abscesses occur before the patient is discharged from the hospital.
- c) Antibiotics are indicated if there is evidence of cellulites.
- d) Actinomyces can cause a chronic abscess.

35. All of the following can be seen in SIRS except,

- a) Hypothermia $<36^{\circ}$.
- b) TLC $< 4 \times 1000/\text{dl}$.
- c) No documented infection.
- d) Bradycardia.

36. Most common site of Actinomyces is:

- a) GIT.
- b) Head and neck.
- c) Breast.
- d) Lungs.

37. The most feared complication of Ludwig's angina is:

- a) Parapharyngeal abscess.
- b) Suffocation.
- c) Septicaemia.
- d) Poststreptococcal glomerulonephritis.

38. As regard incubation period of tetanus:

- a) Variable.
- b) May occur up to 3 weeks of wound.
- c) The shorter the incubation period the poorer the prognosis.
- d) All of the above.

39. Incubation period of gas gangrene is about:

- a) 1-2 days.
- b) 1-2 weeks.
- c) Up to 1 month.
- d) Up to 3 months.

40. The earliest finding in tetanus is:

- a) Risus sardonius.
- b) Trismus.
- c) Dysphagia.
- d) Stridor.

41. The most appropriate treatment for a case of gas gangrene with multi-organ Dysfunction and established muscle necrosis is:

- a) IV antibiotics + corticosteroids.
- b) Massive dose of antitoxin serum.
- c) Amputation of the affected limb.
- d) Debridement of dead muscle and limb salvage.

42. Main pathogenic factor in tetanus is:

- a) Local destruction.
- b) Endotoxin causing septicemia and MOF.
- c) Exotoxin acting on anterior horn cells and motor end plates.
- d) Hypersensitivity reaction.

43. All of the following measures are useful in reducing surgical wound infection Except:

- a) Antiseptic skin preparation.
- b) Avoid hypothermia perioperatively.
- c) Increasing hospital stay to detect more infections.
- d) Supplemental oxygen in recovery room.

44. All of the following statements regarding antibiotics in surgical infections are true except:

- a) Flucloxacillin is useful in treating community acquired staph infections.
- b) Cephalosporins are not effective against *Streptococcus faecalis*.
- c) Serum levels should be monitored if aminoglycoside therapy is continued for more than 1 week.
- d) Vancomycin is effective against both MRSA and *Clostridium difficile*.

45. Which of the following statements regarding gas gangrene is true?

- a) It may be caused by coliforms.
- b) It thrives only in well-perfused tissues.
- c) The absence of crepitus excludes the diagnosis.
- d) The toxin released causes malignant hypertension.

46. The treatment of acute tetanus includes the following except:

- a) Administration of antitoxin.
- b) High-dose penicillin.
- c) Sedatives, muscle relaxants and mechanical ventilation.
- d) Wound excision.

47. Most nosocomial infections involve the

- a) Surgical wound.
- b) Intravenous sites.
- c) Urinary tract.
- d) Deep veins of the leg.

48. In case of tetanus:

- a) The incubation period is very variable.
- b) Incubation period is 48 hours.
- c) Occurs at sites of deep wounds only.
- d) It can produce gram -ve septicemia.

49. Infection of the tendon sheath of the fifth finger tends to spread ready to them:

- a) Fourth digital sheath.
- b) Fourth web space.
- c) Mid-palmer space.
- d) Ulnar bursa.

50. 40-year-old patient presents with abdominal and back pain. On examination, a mass can be felt in his right iliac fossa; the mass is soft and boggy. Compression is possible which accentuates a similar swelling found below the level on inguinal ligament, the swelling isn't hot or erythematous, this diagnosis is:

- a) Tuba ovarian abscess
- b) Appendix mass
- c) Psoas abscess
- d) Spigelian hernia

51. The following are important in management of gas gangrene, except:

- a) Intravenous penicillin.
- b) Anti-gas gangrene serum.
- c) Surgical exposure of all affected.
- d) Blood transfusion.

52. Regarding erysipelas, all of the following statements are true except:

- a) Caused by non-hemolytic streptococci.
- b) Restricted to the dermis and dermal lymphatic.
- c) Accompanied by abrupt onset and fever.
- d) Has a well-defined raised margin with bullae.

53. In herniotomy operation, a broad spectrum antibiotic with a half-life of 8 hours was chosen for surgical prophylaxis, for an operation lasts 2 hours, the proper regimen is to give:

- a) A single dose is given before skin incision.
- b) The first dose with skin incision and the second dose 2 hours later.
- c) The first dose 1 hour before skin incision and continue with a dose every 12 hours for five days.
- d) The first dose with skin incision and continue with an oral form for seven days.

54. Which of the following statements regarding abscesses are true?

- a) Staphylococcus aureus is one of the most common causative organisms.
- b) The abscess wall is composed of epithelium.
- c) Most wound-site abscesses occur before the patient is discharged from the hospital.
- d) Broad spectrum antibiotics are curative.

55. All of the following may require more than one dose of prophylactic antibiotic except:

- a) Prolonged operations.
- b) Gastrointestinal surgery.
- c) Insertion of prosthesis.
- d) Unexpected contamination.

CHAPTER IV: TRANSPLANTATION

1. One of the following is not a contraindication for cadaveric kidney donation:
 - a) Diabetes.
 - b) Age > 65 years.
 - c) Longstanding hypertension.
 - d) Intra-abdominal malignancy.
2. All of the following are absolute contraindications for organ donation, except:
 - a) Hepatic malignancy.
 - b) HIV infection.
 - c) Intracranial malignancy.
 - d) Untreated systemic sepsis.
3. All of the following except one criterion is used to establish brain stem death:
 - a) Absent EEG activity.
 - b) Absent corneal reflexes.
 - c) No occulocephalic reflex.
 - d) Fixed and dilated pupil not responding to light.
4. Before establishing brain stem death, the following criteria should be satisfied:
 - a) Drugs liable to cause depression of conscious level should be excluded.
 - b) Patient must not have received neuromuscular blocking drugs in the past.
 - c) Reversible causes for brain stem dysfunction should be excluded.
 - d) All of the above.
5. All of the following except one is a contraindication for organ donation:
 - a) Active sepsis.
 - b) Colon cancer.
 - c) Basal cell carcinoma.
 - d) High-grade melanoma.
6. All of the following hormonal changes are associated with brain stem death, except:
 - a) Hyperthyroidism.
 - b) Diabetes insipidus.
 - c) Diabetes mellitus.
 - d) Hypothermia.
7. The rationale behind using impermeable substrates (impermeants) in organ preservation solution is:
 - a) They counteract cellular swelling by adding osmotic force.
 - b) They prevent high intracellular potassium and calcium.
 - c) They lower the metabolic activity of the cell.
 - d) None of the above.
8. The impermeant used in hyperosmolar citrate solution is:
 - a) Citrate.
 - b) Glucose.
 - c) Raffinose.
 - d) Mannitol.

9. of the following except one is a constituent of University of Wisconsin solution:

- a) Raffinose and lactobionate.
- b) Sodium bicarbonate.
- c) Potassium chloride.
- d) Glucose.

10. The best preservation solution for a kidney is:

- a) Euro-Collins solution.
- b) Hyperosmolar citrate.
- c) University of Wisconsin.
- d) Phosphate buffer sucrose.

11. The rationale behind the administration of methylprednisolone before organ retrieval is:

- a) It prevents release of lytic enzymes by stabilizing the lysosomes.
- b) It lowers the metabolic activity of the cell.
- c) It reduces interstitial space expansion.
- d) It acts as an antioxidant.

12. Which one of the following is not a constituent of Marshall's solution?

- a) Mannitol.
- b) Sodium citrate.
- c) Potassium citrate.
- d) Potassium phosphate.

13. Allograft is:

- a) Transplantation of an organ within an animal.
- b) Transplantation between genetically identical twins.
- c) Transplantation between genetically identical members of different species.
- d) Transplantation between non-genetically identical members of the same species.

14. Which one of the following statements regarding hyperacute rejection is incorrect?

- a) It is a cell mediated phenomenon.
- b) It can be due to previous blood transfusion.
- c) It may occur due to naturally occurring antibodies.
- d) It results in graft destruction within a few hours of transplantation.

15. Acute rejection most commonly occurs:

- a) 1 to 3 days following transplantation.
- b) Within a few hours of transplantation.
- c) Any time after 3 months of transplantation.
- d) Between day 5 and 14 following transplantation.

16. Encoding for the major histocompatibility complex (MHC) antigens is present on which of the following chromosomes:

- a) Short arm of chromosome 6.
- b) Short arm of chromosome 11.
- c) Short arm of chromosome 17.
- d) Short arm of chromosome 5.

17. Class I major histocompatibility complex (MHC) antigens are present in almost all nucleated cells, EXCEPT:

- a) Platelets.
- b) T-Lymphocyte.
- c) Red blood cell.
- d) Corneal endothelial cell.

18. Hepatic artery thrombosis can be associated with:

- a) Mycophenolate mofetil.
- b) Rapamycin.
- c) Tacrolimus.
- d) Steroids.

19. Gingival hyperplasia is a side effect of:

- a) Mycophenolate mofetil.
- b) Ciclosporin.
- c) Tacrolimus.
- d) Sirolimus.

20. All of the following are side-effects associated with ciclosporin, except:

- a) Hepatic artery thrombosis.
- b) Gingival hyperplasia.
- c) Hypertrichosis.
- d) Hypertension.

21. The following immunosuppressive agent is an anti-metabolite:

- a) Ciclosporin.
- b) Tacrolimus.
- c) Rapamycin.
- d) Mycophenolate.

22. The mechanism of action of sirolimus is:

- a) It inhibits the mammalian target of rapamycin.
- b) It is a monoclonal antibody of IL-2 receptor.
- c) It inhibits-the conversion of IMP to GMP.
- d) It inhibits calcineurin activity.

23. The immunosuppressive agent OKT-3 acts by:

- a) It is a11 anti-CD 25 monoclonal antibody.
- b) It is an anti-CD 3 monoclonal antibody.
- c) It is an anti-CD 4 monoclonal antibody.
- d) Inhibiting interleukin-2 receptor.

24. Cytokine release syndrome is a side-effect of which one of the following immune-suppressive agents?

- a) Azathioprine.
- b) Tacrolimus.
- c) Sirolimus.
- d) OKT-3.

25. The mechanism of action of Basiliximab is:

- a) It is an IL-2 receptor monoclonal antibody.
- b) It is an anti-CD 25 monoclonal antibody.
- c) It is an anti-CD 3 monoclonal antibody.
- d) It is a calcineurin inhibitor.

26. Which one of the following immunosuppressive agents is a monoclonal antibody to CD 25?

- a) Basiliximab.
- b) Daclizumab.
- c) Rapamycin.
- d) OKT-3.

27. The main side-effect of ciclosporin is:

- a) Neurotoxicity.
- b) Nephrotoxicity.
- c) Hypokalaemia.
- d) Hypoglycaemia.

28. Which one of the following statements regarding tacrolimus is INCORRECT?

- a) Food reduces its bio-availability.
- b) It is more potent than ciclosporin.
- c) Its absorption is not influenced by bile.
- d) Antifungal agents reduce its blood levels.

29. Which of the following pro kinetic agents can affect the blood tacrolimus levels?

- a) Metoclopramide.
- b) Erythromycin.
- c) Domperidone.
- d) a and b.

30. Diarrhea is the side-effect of which of the following immunosuppressive agents?

- a) Mycophenolate mofetil.
- b) Azathioprine.
- c) Tacrolimus.
- d) Ciclosporin.

31. Myelosuppression is the side-effect of which of the following immunosuppressive agents?

- a) Tacrolimus.
- b) Ciclosporin.
- c) Azathioprine.
- d) Corticosteroid.

32. Which one of the following immunosuppressive agents augments the bioavailability of mycophenolate mofetil?

- a) Corticosteroid.
- b) Tacrolimus.
- c) Azathioprine.
- d) Rapamycin.

33. Which one of the following immunosuppressive agents has antitumor and antifungal properties?

- a) Sirolimus.
- b) Tacrolimus.
- c) Azathioprine.
- d) Corticosteroid.

34. All of the following are side-effects: of tacrolimus, except:

- a) Hypertension.
- b) Hyperkalemia.
- c) Diabetes insipidus.
- d) Renal dysfunction.

- 35. Inosine monophosphate dehydrogenase is a critical rate limiting enzyme in the so-called de novo synthesis of purines and catalyses the formation of guanosine nucleotides from inosine. Which one of the following immunosuppressive drugs works by inhibiting this enzyme?**
- a) Mycophenolate mofetil.
 - b) Azathioprine.
 - c) Tacrolimus.
 - d) Sirolimus.
- 36. All of the following are contraindications for living related kidney donation, except:**
- a) Diabetes.
 - b) Hypertension.
 - c) Single episode of nephrolithiasis.
 - d) Family history of renal cell carcinoma.
- 37. Which one of the following is not a contraindication for living kidney donation?**
- a) Obesity (BMI >35).
 - b) Active alcohol abuse.
 - c) Cervical cancer in situ.
 - d) Collagen vascular disease.
- 38. The contraindications for cadaveric kidney donation include:**
- a) Chronic renal disease.
 - b) Severe hypertension.
 - c) Hepatitis B surface antigen positive.
 - d) All of the above.
- 39. Which one of the following statements regarding donors from cardiac death compared to donors from brain stem death is INCORRECT?**
- a) It is associated with an increased risk of primary graft dysfunction.
 - b) It is associated with an increased risk of delayed graft function.
 - c) It is associated with worse overall graft survival.
 - d) Serum creatinine at 2 and 5 years is higher.
- 40. The electrolyte abnormalities associated with early post-renal transplantation are:**
- a) Hyperkalemia, Hypernatremia, hypomagnesaemia, hypophosphatemia.
 - b) Hyperphosphatemia, hypernatremia, hypokalemia, hyperphosphatemia.
 - c) Hypokalemia, hyponatremia, hypermagnesemia, hypophosphatemia.
 - d) Hypokalemia, hyponatremia, hypomagnesemia, hypophosphatemia
- 41. The electrolyte abnormalities associated with bladder drained pancreatic transplantation are:**
- a) Hyponatremia, metabolic acidosis.
 - b) Hyponatremia, Hypokalemia, metabolic alkalosis.
 - c) Hypernatremia, Hyperkalemia, metabolic acidosis.
 - d) Hyponatremia, Hyperkalemia, metabolic alkalosis.

42. The initial warm ischemia time during donation from brain stem death donors is defined as:

- a) The time interval from removal of the organ from cold storage until vascularization of the graft.
- b) The time interval between aortic clamping until perfusion with cold preservation fluid.
- c) Time interval between circulatory arrest and commencement of perfusion with cold preservation fluid.
- d) The time interval between removal of the organ from the body until it is stored in cold storage fluid.

43. Prolonged warm ischemia time is associated with:

- a) Increased delayed graft function.
- b) Increased primary graft failure.
- c) Increased chronic rejection.
- d) a and b.

44. The most common cause of sudden death following living related kidney donation is:

- a) Tension pneumothorax.
- b) Myocardial infarction.
- c) Pulmonary embolism.
- d) Air embolism

45. The following criterion is used in the selection of recipient for reduced size graft:

- a) Ratio based on the donor to recipient body mass index (EMI).
- b) Ratio based on the donor to recipient weight.
- c) Ratio based on the donor to recipient height.
- d) Ratio based on the donor to recipient age.

46. Reduction in the size of liver graft is necessary if the donor/recipient weight ratio is:

- a) 5 or less.
- b) 5 or more.
- c) 2 or more.
- d) 10 or more

47. A 45-year-old male patient presents to A&E 2 weeks following liver transplantation with diarrhea for the last 3 days. On examination he is pyrexial with a temperature of 38°C, pulse rate 110/min, with normal blood pressure. His liver function test shows AST of 2,100IU/L and his ALP is 110IU/L at the time of discharge. What is the most likely diagnosis?

- a) Acute rejection.
- b) Hepatic artery thrombosis.
- c) Cytomegalovirus infection.
- d) Diarrhea related to immunosuppressive agents.

48. Compared to whole liver transplantation, split liver transplant is associated with an increased risk of:

- a) Hepatic artery thrombosis.
- b) Primary non-function.
- c) Delayed graft function.
- d) Poor overall survival.

- 49. A 50-year-old male patient with A+ blood group received a liver transplant from an O+ donor. The donor hemoglobin has dropped to 5 gm/dL 48 hours following transplantation. The recipient should receive:**
- a) A+ blood.
 - b) O+ blood.
 - c) AB+ blood.
 - d) A- blood.
- 50. The most common hepatic artery anatomical variation is:**
- a) Accessory right hepatic artery from superior mesenteric artery.
 - b) Replaced right hepatic artery from superior mesenteric artery.
 - c) Left hepatic artery from left gastric artery (12%).
 - d) Left gastric artery from left hepatic artery (7%).
- 51. The risk of acute rejection following orthotopic liver transplantation is highest at:**
- a) 3-6 months.
 - b) <2 months.
 - c) 1-3 months.
 - d) After 12 months.
- 52. Absolute contraindications for liver transplantation include all, EXCEPT:**
- a) Severe uncontrollable sepsis.
 - b) Extrahepatic organ failure.
 - c) Gastric liver metastasis.
 - d) Liver metastases from small bowel carcinoid tumor.
- 53. For every 10°C drop in temperature the metabolic activity of the donor organ is decreased by:**
- a) 1.5-2 fold.
 - b) 5-10 fold.
 - c) 10-15 fold.
 - d) 15-20 fold.
- 54. A kidney biopsy from a transplanted kidney 12 months following transplantation shows features of tubular atrophy, interstitial fibrosis and fibro-intimal thickening of the arteries. These changes most likely represent:**
- a) Changes associated with chronic rejection.
 - b) Changes associated with diabetic nephropathy.
 - c) Changes associated with ciclosporin nephrotoxicity.
 - d) Changes associated with mycophenolate-induced nephrotoxicity.
- 55. The indications for renal replacement therapy include:**
- a) Metabolic acidosis.
 - b) Pulmonary edema.
 - c) Plasma urea >30mmol/L and creatinine >600µmol/L.
 - d) All of the above.

56. Complications associated with hemodialysis include all, EXCEPT:

- a) Hypotension.
- b) Air embolism.
- c) Hyperkalemia.
- d) Cardiac arrhythmias.

57. HLA matching is necessary for the transplantation of the:

- a) Kidney.
- b) Liver.
- c) Lung.

58. The most common reason for not using a donor liver following retrieval is:

- a) Poor perfusion.
- b) Severe steatosis.
- c) Prolonged cold ischemia time.
- d) Damage to donor liver during retrieval.

59. Portacaval shunt during a hepatic phase is associated with all of the following advantages, EXCEPT:

- a) Reduced intra-operative requirements for blood transfusion.
- b) Decreased intestinal congestion.
- c) Poor hemodynamic tolerance.
- d) Preserved renal function.

60. The risk factors that predict recurrence of hepatocellular cancer following liver transplantation include all, EXCEPT:

- a) Vascular invasion.
- b) Lymph node involvement.
- c) Tumor sizes of less than 5 cm.
- d) α -fetoprotein (AFP) of >300 IU/L.

Chapter V: General Organs

1- The skin, subcutaneous tissues & swellings

1. Among the following statements about branchial fistula, the incorrect one is that it:
 - a) Commonly results from rupture of a branchial cyst.
 - b) Usually opens externally at the lower third of the anterior border of the sternomastoid muscle.
 - c) Discharges clear mucoïd fluid.
 - d) Requires removal of the whole track by the "step-ladder" operation.
2. Which of the following is a midline neck swelling?
 - a) Pneumatocele.
 - b) Cystic hygroma.
 - c) Subhyoid bursitis.
 - d) Carotid body tumor.
3. Concerning sublingual dermoid cyst, the following statements are true, except:
 - a) Usually appears before puberty.
 - b) Is a congenital cyst in the floor of the mouth.
 - c) Forms an opaque swelling bulging below the chin.
 - d) Should be treated by enucleation.
4. The commonest cause of multiple scalp swellings is:
 - a) Sebaceous cysts.
 - b) Lymph nodes
 - c) Osteomas.
 - d) Lipoma
5. A 33-year-old female noted a discharge from a sinus in the overlying skin below the right angle of the mandible. She recalls previous episodes of fullness and mild pain in this region over the past several years. What is the most likely cause?
 - a) Thyroglossal duct cyst
 - b) Branchial cyst
 - c) Trauma to the neck
 - d) Teratoma
6. Which one of the following is a complete statement for description of a size of a swelling?
 - a) 5 x 2 cm.
 - b) 0.5 x 1 inch.
 - c) 5 x 2 inches.
 - d) 2 x 3 x 4 cm.
7. A 12-year-old boy has multiple skin lesions that are diagnosed as Von Recklinghausen's syndrome (nf-1). What is true of this condition?
 - a) It does not show other malignant lesions.
 - b) It is associated with optic nerve gliomas.
 - c) It is characterized by atrioventricular (av) malformation.
 - d) It is associated with dermoid.

8. In Branchial fistula all are true, except:

- a) Is congenital in origin
- b) Could be bilateral
- c) The tract passes between external & internal carotid arteries
- d) The external opening is at the upper ½ of the neck.

9. Lipoma which undergoes malignant degeneration is:

- a) Subfascial.
- b) Subserosal.
- c) Submucosal.
- d) Retroperitoneal.

10. All of the following are correct statements about hemangiomas, except:

- a) They are common in infancy.
- b) Spontaneous involution is frequent.
- c) They are capillary more frequently than cavernous.
- d) The majority occur on the limbs

11. What is not true of hamartomas:

- a) Overgrowth of tissue at abnormal location.
- b) Overgrowth of normal tissue at normal location
- c) Virtually benign.
- d) Common example is benign mole.

12. Regarding branchial cyst all are true except:

- a) Arises from the 1st branchial cleft.
- b) Is usually lined by squamous epithelium.
- c) Usually appears between the ages of 20 -25 years.
- d) Protrudes beneath the anterior border of the sternomastoid.

13. sequestration dermoid cyst can appear at any of the following sites, except:

- a) In the face.
- b) In the neck.
- c) Midline of the back.
- d) Palmer surface of fingers.

14. Nerve commonly affected by plexiform neurofibromatosis is:

- a) Glossopharyngeal.
- b) Trigeminal.
- c) Peripheral.
- d) Facial.

15. A sequestration dermoid cyst is:

- a) Due to squamous cells being driven in by a needle.
- b) Due to cells being buried during development.
- c) May affect limbs.
- d) A variety of sebaceous cyst.

16. The wall of a true cyst can be lined by all, except:

- a) Epithelium.
- b) Endothelium.
- c) Granulation tissue.
- d) All of the above.

17. Locally invasive tumors are all except:

- a) Melanoma.
- b) Basal cell cancer.
- c) Mixed salivary tumors.
- d) Bronchial adenoma.

18. A child with more than three cutaneous hemangiomas should undergo

- a) Abdominal ultrasound
- b) CT of the abdomen
- c) MRI of the brain
- d) MRA of the abdominal vasculature

19. All the following regarding Molluscum sebaceum are true, except:

- a) This lesion has a direct relation with exposure to sun.
- b) This lesion is composed of non-keratinizing squamous cells
- c) It's a rapidly growing papule and slightly umbilicated.
- d) Spontaneous healing takes about six months.

20. Which of the following is a sequestration dermoid?

- a) Epidermoid.
- b) Dermoid of testes.
- c) External angular.
- d) Retroperitoneal dermoid.

21. The following are correct for the pressure sores except:

- a) They are due to pressure over bony prominence.
- b) Malnutrition predisposes to poor healing of the ulcer.
- c) Good nursing care is essential preventive pressure more than healthy persons.
- d) The clinical pressure that can cause ulceration is more than 40 mmHg.

22. Regarding brachial cysts, which of the following is true:

- a) Usually appears in old age.
- b) It protrudes from the posterior border of the sternomastoid.
- c) It is related to the upper third of the sternomastoid.
- d) It can be treated by CT guided aspiration.

23. All of the following statements are correct about hemangiomas except:

- a) The majority occurs on the limbs
- b) They are common neoplasms of infancy
- c) Spontaneous involution is frequent
- d) They are capillary more than cavernous

24. A 58-year-old fisherman has been heavily exposed to the sun for more than 30 years. He develops a thickened, scaly lesion extending over two-thirds of the lower lip. There is no ulceration. Histology reveals hyperkeratosis. What should he undergo?

- a) Antihistaminic medications.
- b) Lip stripping and resurfacing with mucosal advancement.
- c) Radical neck dissection.
- d) Observation and biopsy of any new ulcers.

25. Which one among the following statements about cystic hygroma is untrue?

- a) Affects infants and young children.
- b) Occurs chiefly in the neck, axilla and groin.
- c) Presents as a large soft fluctuant translucent swelling.
- d) Is localized to the subcutaneous tissues.

26. True statements about Ludwig's angina do not include that it:

- a) Is a virulent cellulitis of the floor of the mouth.
- b) Usually results from infection with staphylococci.
- c) May cause suffocation.
- d) May require urgent operation.

27. Among the following statements about branchial cyst, it is untrue that it:

- a) Is a congenital cyst presenting at birth.
- b) Is opaque on trans-illumination.
- c) Is lined with squamous epithelium.
- d) Contains mucoid fluid rich in cholesterol crystals.

28. Concerning carotid body tumor, true statements do not include that it:

- a) Arises at the carotid bifurcation.
- b) Presents as a hard nodular swelling (potato tumor).
- c) Grows slowly but may become malignant.
- d) Is always symptomless.

29. Regarding simple ganglion, select the right answer:

- a) It is a cyst that contains clear serous fluid.
- b) Results from protrusion of synovial membrane.
- c) It is usually soft in consistency.
- d) Has no relation to tendons.

30. Cystic hygromas are the product of:

- a) Failure of lymphatic sacs to develop connections with the rest of the lymphatic system.
- b) Hypoplasia of drainage channels connecting the lymphatic systems of extremities to the main primordial lymphatic system of the torso.
- c) Neoplastic growth of normal lymphatic structures.
- d) Inflammation of lymphatic ducts in the neck.

31. The treatment of a primary malignant melanoma of the skin is:

- a) Radiotherapy.
- b) Wide excision.
- c) Cytotoxic therapy.
- d) Immunotherapy.

32. Concerning strawberry naevi, the following statements are true except that they:

- a) Arise in the dermis as raised reddish-purple vascular malformations.
- b) May undergo spontaneous regression by 7 years of age.
- c) May be treated by superficial radiotherapy.
- d) Never turn malignant.

33. A cirroid aneurysm is:

- a) An abnormal aortic aneurysm.
- b) An arteriovenous fistula
- c) An abscess.
- d) A femoral aneurysm

- 34. A 16-year-old boy complains of difficulty in breathing through his nose. Endoscopy reveals a tumor infiltrating the nasopharynx. Histology reports this as a juvenile nasopharyngeal hemangiofibroma. The boy's anxious mother requests information concerning the lesion. What should she be told?**
- a) It is a premalignant lesion.
 - b) It usually occurs with laryngeal obstruction.
 - c) It may proceed to destroy surrounding bone.
 - d) It is found equally in teen aged girls and boys.
- 35. A giant hairy nevus is excised mainly because of:**
- a) The risk of malignant transformation
 - b) The frequent bleeding on contact with clothing
 - c) The frequent attacks of infection
 - d) Ulceration.
- 36. A 56-year-old man presents with multiple hard lumps in his right groin. Examination reveals a discolored lesion under the nail of his right hallux which is distorting the nail?**
- a) Basal cell carcinoma.
 - b) Squamous cell carcinoma.
 - c) Strawberry naevus.
 - d) Malignant melanoma
- 37. All the following statements about sebaceous cysts are true, except:**
- a) They are common in children.
 - b) They are attached to the skin.
 - c) Infection is the commonest complication.
 - d) Sometimes the punctum cannot be seen.
- 38. All of the following are signs of epitheliomatous transformation in basal cell carcinoma except:**
- a) Rapid growth
 - b) Invasion of basement membrane
 - c) Everted edges
 - d) Hard fixed LNs
- 39. Regarding sebaceous cyst, select the right answer:**
- a) Are usually rapidly growing.
 - b) Common in the scrotum.
 - c) Malignant transformation causes cock's peculiar tumor.
 - d) Infection is rare.
- 40. Which statement is untrue concerning malignant melanoma?**
- a) Is common in children and Negroes.
 - b) Usually occurs between the ages of 50 and 60 years.
 - c) May arise de novo or in a benign pigmented naevus.
 - d) Always carries a bad prognosis.
- 41. As regards spontaneous regression of vascular lesions:**
- a) Never occur.
 - b) Occurs in cases of hemangiomas.
 - c) Commonly occurs during the first year of life
 - d) Occurs in cases of vascular malformations

42. Which of the following types of malignant melanoma is characterized by vertical growth without radial growth phase?

- a) Lentigo malignant melanoma.
- b) Superficial spreading melanoma.
- c) Nodular malignant melanoma.
- d) Acral lentigo melanoma.

43. Which of the following statements is not true about melanoma?

- a) Change in color, shape, size and surface in a naevus should be looked upon with suspicion.
- b) Excision biopsy should be done in all suspicious lesions.
- c) Superficial spreading melanoma is the most common type.
- d) Exposure to ultraviolet rays is a major cause of malignant melanoma.

44. A 33-year-old woman presents with a 7 mm dark brown lesion just below the lateral malleolus of her left ankle. There is a similar 2 mm lesion directly adjacent to it. They bleed on contact the nail.

- a) Junctional naevus.
- b) Squamous cell carcinoma.
- c) Strawberry naevus.
- d) Malignant melanoma.

45. Sarcomas are characterized by all of the following except:

- a) Rapidly growing
- b) Endodermal origin
- c) Earlier age incidence
- d) Disseminated rapidly via blood stream.

46. The best prognostic plastic factor in malignant melanoma is:

- a) Clark's level
- b) Duration of the disease
- c) Age of the patient
- d) Breslow's staging (tumor thickness).

47. A melanotic melanoma is differentiated from SCC by:

- a) X-ray to detect bone affection
- b) LNs biopsy
- c) DOPA test
- d) Cannot be differentiated except after excision

48. Surgical excision in malignant melanoma:

- a) Is performed only in inoperable case
- b) Is advisable whatever the stage and type
- c) Can be replaced by irradiation
- d) There is no need for surgical excision of LNs.

49. Sebaceous cyst is characterized by all of the following except:

- a) Rapidly growing
- b) May be solitary or multiple
- c) Most commonly in scalp, face and scrotum
- d) The swelling is mobile over the deep structures

50. Generalized neurofibromatosis is characterized by all of the following except:

- a) Liable to carcinomatous change
- b) Inherited as autosomal dominant disease
- c) Associated pigmentation of skin is common
- d) Can affect cranial and spinal nerves

51. Current guidelines advise that this lesion is resected with a 5 mm margin.

- a) Basal cell carcinoma.
- b) Junctional naevus.
- c) Squamous cell carcinoma.
- d) Malignant melanoma.

52. Regarding malignant melanoma all are true except:

- a) The incidence is increasing
- b) Superficial spreading melanoma is the commonest clinico-pathological type
- c) Tumor thickness is the most important prognostic indicator
- d) Acral tumors are usually found on the trunk and proximal limbs

53. A 40-year-old female presented with recent ulceration of a plantar mole which she has had since childhood. Excisional biopsy proved the lesion to be Clark's level II melanoma. The regional lymph nodes were clinically negative. The adequate definitive treatment should be:

- a) Wide local excision alone.
- b) Wide local excision with prophylactic node dissection.
- c) Wide local excision with regional perfusion chemotherapy.
- d) Amputation of the foot alone.

54. The most common precancerous lesion in the skin is:

- a) Xeroderma pigmentosa.
- b) Seborrhoeic keratosis.
- c) Bowen's disease.
- d) Actinic keratosis.

55. The treatment of a primary malignant melanoma of the skin is:

- a) Wide excision
- b) Cytotoxic therapy
- c) Radiotherapy
- d) Immunotherapy

56. Concerning basal-cell carcinomas, the false statement is that they are:

- a) Much less common than squamous cell carcinomas.
- b) Very rare in oriental and black races.
- c) Particularly common in tropical regions.
- d) Commonest on the exposed skin of blonde subjects and outdoor workers.

57. Clark level IV melanoma extends to which of the following structures?

- a) Epidermis.
- b) Reticular dermis.
- c) Papillary dermis.
- d) Subcutaneous tissue.

58. The treatment of a 2 cm malignant ulcer on the left side of the anterior part of the tongue with no palpable neck lymph nodes is:

- a) Neoadjuvant chemotherapy then wide surgical excision of the tumor.
- b) Excision of the tumor with a safety margin.
- c) Excision of the tumor with a safety margin and bilateral block neck dissection.
- d) Excision of the tumor with a safety margin and left block neck dissection.

59. In melanoma, which of the following factors is most predictive of the patient's long term prognosis?

- a) Circumference of lesion.
- b) Depth of lesion.
- c) Brightness of lesion.
- d) The diameter of the lesion.

60. The treatment of melanoma includes the following except:

- a) Wide surgical excision.
- b) Radiotherapy.
- c) Chemotherapy.
- d) Immunotherapy.

61. Regarding malignant melanoma, all are true except:

- a) Breslow's thickness is better prognostic indicator than Clark's classification
- b) Females are more commonly affected
- c) May arise in a pre-existing naevus
- d) The most common type is nodular melanoma

62. Regarding malignant melanoma, false statement is:

- a) The staging and hence the prognosis depends mainly on the superficial spread of the lesion as measured by its greatest diameter.
- b) Absence of pigmentation in a suspected skin lesion does not exclude the diagnosis of melanoma.
- c) Sometimes the diagnosis is made only after P/R & anoscopic examination.
- d) It is one type of tumors where there is a place for immunotherapy.

63. Which of the following is incorrectly matched about behavior of skin tumors?

- a) Malignant melanoma → locally malignant tumor
- b) Squamous cell carcinoma → malignant tumor
- c) Basal cell carcinoma → locally malignant tumor
- d) Hemangioma → hamartoma

64. A case presented by chronic ulcer resistant for healing, the following support your diagnosis as basal cell carcinoma except:

- a) Male sex
- b) Face as primary site
- c) 50 years age
- d) The surgeon decision to conserve.

65. Which of the following statements is wrong regarding skin squamous cell carcinoma?

- a) Xeroderma pigmentosa is a predisposing factor.
- b) Microscopic appearance is characterized by the presence of cell nests.
- c) Early hematogenous spread.
- d) It has everted edges.

66. Regarding rodent ulcer, all are true except:

- a) More common in black persons
- b) Histopathology reveals columnar cells with palisade appearance
- c) The edge is usually described as beaded and rolled up with slowly progressive widening of the ulcer
- d) The deep penetration of the ulcer is not limited by the underlying bone or cartilage.

67. The following about squamous cell carcinoma is untrue:

- a) Xerodermapigmentosa is a recognized risk factor
- b) SCC is called Marjolin's ulcer when it occurs in chronic ulcers
- c) It can give distant metastasis in contrary to BBC
- d) All are true.

68. The following are subtypes of capillary hemangioma except:

- a) Strawberry hemangioma
- b) Cirroid aneurysm
- c) Port wine hemangioma
- d) Salmon patch.

69. Which statement is incorrect concerning rodent ulcer?

- a) Is a basal-cell carcinoma.
- b) Have a red granular floor and a rolled-in beaded edge.
- c) May spread to regional lymph nodes.
- d) Is best treated by surgical excision.

70. Regarding a rodent ulcer, all are false except:

- a) It is an ulcer of the skin usually occurring at the back in black persons.
- b) Histopathology reveals an invasive squamous cell carcinoma in most patients.
- c) The edge is usually described as beaded and rolled up with slowly progressive widening of the ulcer.
- d) The deep penetration of the ulcer is characteristically limited by the underlying bone or cartilage.

71. Regarding basal cell carcinoma, the false statement is:

- a) More common in the back
- b) Is radio sensitive
- c) Is a low grade malignancy
- d) May present as a nodule or cyst

72. A 70-year-old patient presented with small elevated crusted lesion on the right side of nose, which he stated to be present for last several months and never quite heal, the most likely diagnosis is:

- a) Epidermoid carcinoma
- b) Sebaceous cyst
- c) Verrucous carcinoma
- d) Basal cell carcinoma

73. A baby is born with a left posterior triangle swelling. The swelling is subcutaneous, partially compressible and translucent. The clinical diagnosis is:

- a) Dermoid cyst.
- b) Branchial cyst.
- c) Cystic hygroma.
- d) Hemangioma.

74. A port wine stain is:

- a) A pre malignant lesion of the skin.
- b) A type of hemangioma.
- c) A type of melanoma.
- d) A type of bruising of the skin.

75. The most common type of basal cell carcinoma is:

- a) Rodent ulcer
- b) Pigment type
- c) Turban type
- d) Field fire type

76. All of the following are clinical types of basal cell carcinoma, except:

- a) Cicatricial BBC
- b) Sclerosing BBC
- c) Pigmented BBC
- d) Metastatic BBC

77. Sun exposure predisposes to this type of neoplasia:

- a) Melanoma.
- b) Hodgkin's lymphoma.
- c) Breast cancer.
- d) Nasopharyngeal carcinoma

78. Hemangioma which resolves spontaneously is:

- a) Port wine stain.
- b) Strawberry angioma.
- c) Arteriovenous malformation (AVM)
- d) Arterial malformation (AM)

79. The following is predisposing factor for basal cell carcinoma:

- a) Prolonged exposure to UV rays.
- b) Chronic exposure to chemical agents.
- c) Human papilloma virus.
- d) All of the above.

80. Raised everted edge of an ulcer is suggestive of:

- a) Healing ulcer.
- b) Neurotrophic ulcer.
- c) Ischemic ulcer.
- d) Squamous cell carcinoma.

81. False concerning basal cell carcinoma:

- a) Arises from the basal area of the skin appendages.
- b) It is an aggressively malignant tumor with early lymph node metastasis.
- c) 90% of lesions found in the face.
- d) Surgical excision plays an important role in management

82. Sebaceous cyst is characterized by the following except that it:

- a) Is lined by stratified squamous epithelium.
- b) Contains a yellow greasy material known as sebum.
- c) May occur on the palms and soles.
- d) Is always anchored to the overlying skin at the punctum of the obstructed gland

83. Spread of malignant melanoma is:

- a) Local
- b) Vascular
- c) Lymphatic
- d) All of the above

84. Characteristics of cystic hygroma include all, except:

- a) Enlarges when the child cries.
- b) Brilliantly translucent.
- c) Typically occupies the middle third of the neck.
- d) Develops from jugular lymph sacs.

85. A 63-year-old bartender presents at his physician's office complaining of a painful sore on his tongue. On examination, it is found that he has an ulcerated lesion on his tongue and a mass in the submandibular gland triangle. What is the most likely diagnosis? Select one.

- a) Benign mixed tumor
- b) Squamous cell carcinoma
- c) Sjogren's syndrome
- d) Metastatic skin cancer

86. The most common site of cystic hygroma is:

- a) Axilla.
- b) Posterior triangle of the neck.
- c) Groin.
- d) Mediastinum.

87. Regarding epithelioma of the lip, all are true, except:

- a) Is radio resistant.
- b) Has raised everted edges.
- c) Metastasizes to the regional lymph nodes.
- d) Most commonly occurs at the outer canthus of the eye.

88. Squamous cell carcinoma of the lip is least likely to develop in which of the following?

- a) Scandinavian fisherman
- b) Redheaded pornographic actress with a gorgeous year round tan
- c) Brunette secretary who constantly drinks tea
- d) Mentally defective man who smokes 40 cigarettes a day and keeps the butt in his mouth

89. Which of the following is true of a cystic hygroma?

- a) Any collection of blood clot.
- b) A tumor of blood vessels.
- c) A developmental malformation.
- d) A tumor of muscles.

90. Regarding basal cell carcinoma, one statement only is true:

- a) Arises from a preexisting nevus.
- b) Spreads to lymph nodes.
- c) Histologically it shows cell nests with keratin inside
- d) Surgical excision is the main line of treatment.

91. Precancerous skin lesions include all the following, except:

- a) Keratoacanthoma (molluscum sebaceum)
- b) Xeroderma pigmentosa
- c) Giant hairy nevus in children
- d) Squamous keratosis (actinic or solar keratosis)

92. Which of the following is correct about incidence of malignant melanoma?

- a) The most common type is the superficial spreading one
- b) Overall incidence is declining
- c) Very rare to occur on top of benign melanoma
- d) It's more common in males.

93. The most characteristic histopathological finding in basal cell carcinoma is:

- a) Microscopic LNs metastasis
- b) Anaplastic collections
- c) Palisade appearance
- d) Cell nests

94. Regarding malignant melanoma:

- a) Breslow's thickness is a better prognostic indicator than Clark's levels.
- b) Never arise in a preexisting naevus.
- c) The most common type is nodular.
- d) If thicker than 1 mm should be excised with a margin of 1 cm.

95. The following type of malignant melanoma has the best prognosis:

- a) Superficial spreading type
- b) Acral type
- c) A melanotic melanoma
- d) Nodular melanoma

96. Risk factors for malignant transformation in naevi include the following, except:

- a) Microscopic junctional type
- b) Incomplete removal
- c) Macroscopic lentigo
- d) Chronic irritation

97. Which of the following is true regarding benign cystic lesions of the skin?

- a) An epidermal inclusion cyst lacks a fully mature epidermis with a granular cell layer.
- b) The wall of a trichilemmal cyst, usually located on the scalp, is characterized by an epidermal lining that includes a granular cell layer.
- c) The most common location of a ganglion cyst is on the dorsal aspect of the wrist.
- d) Malignant degeneration may occur in a dermoid cyst.

98. With regard to basal cell carcinoma, which of the following statements is true?

- a) It originates from the deep dermal appendages.
- b) Intermittent intense exposure to UV light is a greater risk factor than exposure at a low dose per episode of a similar total dose.
- c) Fifty percent occur on the head and neck.
- d) The risk for a second basal cell carcinoma is lower for men with index tumors on the trunk.

99. Which of the following is the most significant prognostic factor for patients with node-positive (stage III) melanoma?

- a) Findings on pelvic CT or PET -CT
- b) Palpable versus micro-metastatic nodal disease
- c) Primary tumor ulceration
- d) The status of Cloquet's node.

100. Which of the following is not a risk factor for melanoma?

- a) Nodal size
- b) Tumor ulceration
- c) Tumor thickness
- d) Number of involved lymph nodes

101. A subtype of capillary hemangioma raised above skin surface:

- a) Strawberry hemangioma
- b) Salmon patch
- c) Port wine hemangioma
- d) None of the above

102. Which statement is untrue concerning malignant melanoma?

- a) Is common in children, Negroes and Asians.
- b) Usually occurs between the ages of 50 and 60 years.
- c) Always carries a bad prognosis.
- d) May undergo spontaneous regression

103. The prognosis of patients with malignant melanoma depends on:

- a) Depth of invasion.
- b) Clinical stage of the disease.
- c) Location of the tumor.
- d) All of the above.

104. Hemangioma is a development anomaly characterized by all of the following, except:

- a) Arises after birth
- b) Has a stationary course
- c) Slowly increasing in size
- d) Responds to steroid therapy

105. All the following are clinical types of basal cell carcinoma (BBC), except:

- a) Pigmented BBC
- b) Invasive BBC
- c) Sclerosing BBC
- d) Cystic BBC

106. Regarding the carcinoma of the lip, select the right answer:

- a) It affects the lower lip more than the upper.
- b) It's usually of high grade malignancy.
- c) It's usually radioresistant.
- d) It has a worse prognosis than carcinoma of the tongue.

107. As regards spontaneous regression of vascular lesions:

- a) Never occur.
- b) Commonly occurs during the first year of life
- c) Occurs in cases of vascular malformations
- d) Occurs in cases of hemangiomas.

108. A 43-year-old man presented to outpatient clinic with a single ulcer about 6X7 cm over the lower end of shin of tibia of the right leg, the patient states that it's increasing in size for the last 2 months, he also gives a past history of DVT in the same leg. Biopsy was taken from the edges of this ulcer, mostly it will reveal:

- a) Basal cell carcinoma
- b) Malignant melanoma
- c) Squamous cell carcinoma
- d) Any of the above

109. Dermoid cyst:

- a) Occurs only at sites of fusion.
- b) Only appears at the face.
- c) It never appears in the limbs.
- d) It can be malignant.

110. Which of the following is not indicated for the initial treatment of in transit metastasis from cutaneous melanoma?

- a) Excision
- b) Injection
- c) Amputation
- d) Laser treatment

111. Which of the following statements for squamous cell carcinoma is untrue?

- a) A malignant tumor arising from epidermis
- b) Less rapidly growing tumor than basal cell carcinoma
- c) Frequently occurs in pre-existing skin lesion

112. All of the following statements are correct except:

- a) The branchial cyst usually appears after the age of 20 years.
- b) The branchial fistula is never congenital.
- c) The cyst is susceptible to infection because its wall is surrounded by lymphatic tissue.
- d) Branchial cyst appears in the carotid triangle.

113. A 38-year-old female undergoes removal of a 2 x 1 cm skin lesion shown to be a melanoma. It is reported as Clark level 1, which implies what?

- a) It is superficial to the basement membrane.
- b) It is 1 mm in thickness.
- c) It has nodal involvement.
- d) It involves the reticular dermis.

114. Which of the following applies to branchial cysts?

- a) They usually present in the neonatal period.
- b) They present in the midline of the neck.
- c) Infection of the cyst leads to an increase in size, facilitating surgical excision.
- d) They are found at the junction of the upper and middle third of the sternomastoid muscle.

115. Which of the following statements are false?

- a) The vast majority of malignant melanoma form in pre-existing naevi.
- b) Change in color, shape, size and surface in a naevus should be looked upon with suspicion.
- c) Incision biopsy should be done in all suspicious lesions.
- d) Exposure to ultraviolet rays is a major cause of malignant melanoma.

116. Regarding basal cell carcinoma, select the correct answer:

- a) Most of the lesions occur in the face below a line drawn from the lobule of the ear to the angle of the mouth.
- b) The lesion usually starts as a small nodule covered by thin epidermis.
- c) The prognosis after surgery is usually poor.
- d) Excision of draining lymph nodes is necessary.

117. Which of the following is wrong for cystic hygroma?

- a) It is a type of cavernous hemangioma.
- b) It can be the earliest swelling of the neck that appears in life.
- c) It can obstruct labour.
- d) It is brilliantly translucent.

118. The signs of squamous cell carcinoma include the following except:

- a) Raised everted edge.
- b) Nodular irregular base.
- c) Telangiectasia.
- d) Marked induration.

119. Which of the following lipomas is usually harmless?

- a) Extradural lipoma.
- b) Retroperitoneal
- c) Parosteal.
- d) Subcutaneous.

120. Regarding hemangiomas, select the right answer:

- a) Strawberry angioma is a cavernous hemangioma.
- b) Strawberry angioma usually disappears spontaneously.
- c) Port wine stain is usually raised above the skin surface.
- d) Port wine stain is easily treated by surgical excision.

121. Regarding types of dermoid cysts, select the right answer:

- a) Sequestration-external angular dermoid.
- b) Inclusion-after surgical operations.
- c) Tubulo-dermoid-finger dermoid.
- d) Implantation-ovarian dermoid.

- 122. About branchial cyst and fistula, all the following statements are true except:**
- a) A branchial cyst is observed in the neonate.
 - b) A branchial fistula is present at birth.
 - c) A branchial cyst is partially covered by the sternomastoid muscle
 - d) The main differential diagnosis of branchial cyst is cold abscess.
- 123. Ganglion cyst is most commonly located at:**
- a) Anterior aspect of the wrist.
 - b) Posterior aspect of the wrist.
 - c) Dorsum of the hand.
 - d) Palmar surface of the hand.
- 124. Among the following statements about congenital branchial fistula, the incorrect one is that it:**
- a) Commonly results from rupture of a branchial cyst.
 - b) Usually opens externally at the lower third of the anterior border of the sternomastoid muscle.
 - c) May be bilateral.
- 125. Involution of hemangioma in 70% of patients occurs at the age of:**
- a) 2 years.
 - b) 3 years.
 - c) 4 years.
 - d) 7 years.
- 126. What is the safety margin at the time of excision of a 2.5 mm thick melanoma?**
- a) 1 cm.
 - b) 2 cm.
 - c) 3 cm.
 - d) 5 cm.
- 127. Which type of melanoma has the best 5-year survival?**
- a) Nodular type.
 - b) Acral lentiginous
 - c) Lentigo maligna.
 - d) Superficial spreading type
- 128. Among the following, which is the most common type of basal cell carcinoma (BBC)?**
- a) The superficial spreading type.
 - b) The nodular type.
 - c) The pigmented type.
 - d) None of the above.
- 129. Which of the following statements regarding vascular anomalies is true?**
- a) Newborns with capillary malformations (port wine stains) involving the ophthalmic trigeminal dermatome should undergo MRI of the head.
 - b) A 2 month old with a stable hemangioma of upper extremity that failed to regress should be treated with a pulsed dye laser.
 - c) Arteriovenous malformations respond well to course of systemic steroids in the majority of cases.
 - d) Injection sclerotherapy is effective in the treatment of arteriovenous malformations.
- 130. Embryologic origin of melanocyte is from:**
- a) Neural crest.
 - b) Ectoderm.
 - c) Endoderm.
 - d) Mesoderm.

- 131. Capillary hemangioma of the face requires which of the following investigation before starting treatment?**
- a) MRI of the sinuses.
 - b) Liver ultrasound.
 - c) CT of the brain.
 - d) Venous duplex of the lower limbs.
- 132. All of the following are correct statements about hemangiomas except:**
- a) They are common neoplasms of infancy.
 - b) Spontaneous involution is frequent.
 - c) They are cavernous more frequently than capillary.
 - d) The majority occur on the head or neck.
- 133. Red discoloration on eyelid which disappears by one year is:**
- a) Venous hemangioma.
 - b) Strawberry hemangioma.
 - c) Port wine stain.
 - d) Salmon patch.
- 134. All of the following are indications for surgical treatment of squamous cell carcinoma; except:**
- a) Tumors of head and neck.
 - b) Infiltration of cartilage and bone.
 - c) Marjolin's ulcer.
 - d) Radio resistant lesions
- 135. The prognosis for squamous carcinoma of the floor of the mouth is adversely affected by which of the following?**
- a) Poor differentiation of tumor
 - b) Non-verrucous carcinoma
 - c) No tongue involvement
 - d) Keratosis of the lower lip
- 136. Midline swelling causing a double chin appearance is what?**
- a) Lipoma
 - b) Sebaceous cyst
 - c) Cystic hygroma
 - d) Dermoid cyst.
- 137. During an examination, the dentist notices a lump between the earlobe and mandible in 6-year-old boy. It feels soft, but it is difficult to distinguish from the rest of the parotid gland. What is the most likely diagnosis?**
- a) Lymphoma
 - b) Squamous cell carcinoma
 - c) Benign mixed tumor
 - d) Hemangioma
 - e) Metastatic skin cancer
- 138. The zone of stasis in a burn wound is associated with which of the following?**
- a) Direct thermal damage
 - b) Vasodilation
 - c) Neutrophil adherence
 - d) Platelet degranulation
- 139. Regarding hypertrophic scar and keloid, spot the wrong statement:**
- a) Hypertrophic scar is more common on flexor surfaces
 - b) Keloid is often familial
 - c) Hypertrophic scar outgrows wound area
 - d) Keloid is more common on sternum, shoulder and face

140. Keloid:

- a) May occur due to infection
- b) May occur in perfect non complicated wound
- c) Doesn't grow outside the edges of the wound
- d) A premalignant lesion of the skin.

141. Keloids are characterized by the following, except:

- a) Consist of dense overgrowth of scar tissue.
- b) Are particularly common in Negroes and pregnant females.
- c) Occur most often on the face, neck and front of the chest.
- d) May turn malignant.

142. Which of the following is not a type of malignant melanoma?

- a) Superficial spreading.
- b) Giant congenital pigmented nevus.
- c) Nodular
- d) Lentigo.

143. Squamous cell carcinoma of the skin:

- a) Is a locally malignant tumor.
- b) Metastasize early by blood.
- c) Can be treated with radiotherapy.
- d) Can be staged with Breslow thickness involvement.

144. The treatment of choice for keloids is:

- a) Excision alone.
- b) Excision with adjuvant therapy (e.g. Radiation).
- c) Pressure treatment.
- d) Intralesional injection of steroids.

145. 29-year-old female swimmer develops a pigmented lesion on the right thigh.

With reference to a pigmented lesion, there is an increased risk of developing melanoma if it is identified with which of the following?

- a) Hutchinson freckle (lentigo maligna)
- b) Freckle involving basal layer of skin
- c) Congenital nevo-cellular nevi
- d) Hemangioma

146. "Sign of emptying" is seen in:

- a) Salmon patch.
- b) Port wine stain.
- c) Plexiform angioma.
- d) Strawberry hemangioma.

147. Which of the following is a premalignant lesion?

- a) Capillary hemangioma.
- b) Seborrheic dermatitis.
- c) Keratoacanthoma.
- d) Bowen's disease.

148. List the layers of skin from the most superficial to the deepest layer adjacent to the dermis (A) basal layer, (B) granular layer, (C) prickly layer, and (D) stratum corneum.

- a) C A B D
- b) D B A C
- c) C A D B
- d) D C B A

- 149. The skin layer that contributes the most strength in a linear closure is:**
- a) Epidermis
 - b) Dermis
 - c) Subcutaneous fat
 - d) Each layer contributes equally.
- 150. Acute shoulder pain with an onset after the third decade is most often due to:**
- a) Cervical spondylosis.
 - b) Supraspinatus tendonitis.
 - c) Pancoast's tumor.
 - d) Subacromial bursitis.
- 151. The soft tissue sarcoma which carries the best prognosis after radical excision is:**
- a) Liposarcoma
 - b) Fibrosarcoma
 - c) Angiosarcoma.
 - d) Rhabdomyosarcoma.
- 152. Regarding glomus tumor all are true, except:**
- a) It is commonly found beneath nails.
 - b) It is markedly painful and tender.
 - c) Treatment is by excision under magnification.
 - d) It arises from heat regulating arteriovenous shunts and myelinated nerves that control them.
- 153. A 45-year-old patient presented with a pulsatile swelling in the anterior triangle of the neck. Conventional angiography was done showing splaying of the carotid bifurcation. This patient most probably has:**
- a) Carotid artery aneurysm
 - b) Carotid-jugular fistula
 - c) Carotid artery stenosis
 - d) Carotid body tumor
- 154. Potato tumor is a:**
- a) Carotid body tumor.
 - b) Sternomastoid tumor
 - c) Cystic hygroma
 - d) Branchial cyst
- 155. About carotid body tumor, all the following statements are true, except:**
- a) The mass is pulsatile.
 - b) The majority are benign.
 - c) Biopsy is needed before excision.
 - d) It presents by a mass in the carotid triangle.
- 156. A punched out edge ulcer is characteristic of:**
- a) Tuberculous.
 - b) Syphilitic ulcer.
 - c) Rodent ulcer.
 - d) Non-specific ulcer.
- 157. All of the following are true about flaps, except:**
- a) Flaps introduce blood supply into an area for reconstruction.
 - b) Classification of the flaps can be made on their blood supply.
 - c) In a random pattern flap, the maximum length: breadth ratio that is safe is 3:1.
 - d) Axial flaps enable longer flaps to be moved over longer periods.

- 158. Which of the following statements regarding keloid scars is untrue?**
- a) They have a predilection for sternal, mandibular and deltoid area wounds.
 - b) They are confined to the margins of the original injury.
 - c) They often recur following excision.
 - d) They may be treated by injection of corticosteroids.
- 159. A 50-year-old man is noted to have a growing, pigmented skin lesion over his left posterior shoulder. Surgical biopsy revealed malignant melanoma. Which of the following type of melanoma is most likely?**
- a) Superficial spreading
 - b) Nodular sclerosing
 - c) Lentigo maligna
 - d) Acral lentiginous
- 160. A 50-year-old man is noted to have a growing, pigmented skin lesion over his left posterior shoulder. Surgical biopsy revealed malignant melanoma. The patient scheduled for surgery. Which of the following is the most accurate predictor of clinical prognosis in the micro staging of his melanoma?**
- a) Clark's level
 - b) Presence of t-cell infiltration
 - c) Diameter of the primary tumor
 - d) Breslow's level
- 161. Based on the current consensus recommendations, which of the following is the most appropriate radial margin measurement for a 2.2 mm-deep superficial spreading melanoma located over the left posterior back?**
- a) 0.5 cm
 - b) 1 cm
 - c) 2 cm
 - d) 3 cm
- 162. A 30-year-old man had an excision of a small nodular pigmented skin lesion from his left forearm. The pathology revealed a melanoma with maximal depth of 1.8 mm with microscopically uninvolved margins. Which of the following is the most appropriate treatment for this man?**
- a) Thorough dermatologic examination, wide excision of the scar with a 2-cm margin, and interferon alpha treatment
 - b) Thorough dermatologic examination, wide local excision with a 2-cm margin, and PET scan
 - c) Thorough dermatologic examination, wide local excision with a 1-cm margin, and left axillary SLNB
 - d) Thorough dermatologic examination, wide local excision with a 2-cm margin, lymphoscintigraphy, and SLNB
- 163. Which of the following is the most appropriate management strategy for a 38-year-old man with a 3.2-mm-thick melanoma of the left shoulder?**
- a) Wide local excision of the melanoma followed by alpha interferon treatment
 - b) Lymphoscintigraphy, SLNB, wide local excision of the melanoma, and alpha-interferon treatment
 - c) Wide local excision and axillary SLNB
 - d) Lymphoscintigraphy, SLNB, wide local excision of the melanoma

164. A 43-year-old woman with a 1.8 mm malignant melanoma over the left thigh underwent wide local excision and left groin SLNB that did not reveal any disease spread 3 years ago. She now presents with a single 2-cm left pulmonary nodule in the peripheral lung field. Her physical examination is otherwise normal. A CT-guided needle aspiration of this lesion revealed malignant melanoma. A PET scan reveals no other hypermetabolic lesions in the body. Which of the following is the most appropriate treatment for this patient?
- a) Interferon alpha treatment and serial CT scan surveillance of the lung nodule
 - b) Thoracotomy and pulmonary wedge excision of the lung nodule
 - c) Thoracotomy and pulmonary wedge excision followed by whole body radiation treatment
 - d) Wide local excision of the old left thigh surgical scar, thoracotomy and pulmonary wedge resection

2- The vascular system

1. Claudication is:

- a) Pain at rest.
- b) Constant pain.
- c) Pain relieved by rest.
- d) Pain not relieved by rest.

2. Rest pain refers to pain:

- a) Anywhere in the body at rest.
- b) In the back.
- c) In the thigh of the patient with Buerger's disease.
- d) In the foot of a patient of severe vascular disease.

3. The most common cause of fat embolism is:

- a) Weight gain.
- b) Weight loss.
- c) Bone fracture
- d) None of the above

4. Embolism leads to:

- a) Moist gangrene.
- b) Never cause gangrene
- c) Dry gangrene.
- d) None of the above

5. Which is the most common site at which an arterial embolus lodges?

- a) Iliac artery
- b) Popliteal artery
- c) Aortic bifurcation
- d) Common femoral artery

6. The most frequent cause of arterial embolism is:

- a) Myocardial infarction.
- b) Mitral valve disease.
- c) Atrial fibrillation.
- d) Aortic aneurysm.

- 7. A 22 year old patient with known mitral stenosis and atrial fibrillation developed acute lower limb embolic ischemia of several hours duration. On examination; his RT, lower limb was cold and pulseless. Motor power and sensation were intact. The LT. Lower limb had intact pedal pulses. The first thing to be done for this patient is:**
- a) Angiography to visualize distal run-off.
 - b) Femora -distal saphenous bypass to re-perfuse the distal tibial arteries.
 - c) Immediate anticoagulation with heparin to avoid clot propagation.
 - d) Thrombolytic therapy with tissue plasminogen activator to lyse the embolus
- 8. The commonest source of arterial lower limb emboli is:**
- a) Left atrial thrombus.
 - b) Thrombus in thoracic aortic aneurysm.
 - c) Thrombus in abdominal aortic aneurysm.
 - d) Cardiac mural thrombus on top of myocardial infarction.
- 9. Indicate the incorrect statement about arterial embolism:**
- a) It results in acute ischemia.
 - b) Is always due to a detectable site of thrombosis.
 - c) Is often due to lodgment of an embolism at the bifurcation a main artery.
 - d) Tends to induce reflex spasm and secondary thrombosis in the distal arterial tree.
- 10. All of the following can result in acute ischemia, except:**
- a) Embolism originating from the heart with chronic atrial fibrillation.
 - b) Acute hemolysis of RBCs in a patient with known spherocytosis.
 - c) Thrombosis of a diseased artery on top of chronic lower limb ischemia.
 - d) Fracture of bones with injury to nearby arteries
- 11. Arterial embolism is characterized by:**
- a) Patient must give a history of claudication.
 - b) Tapering stenosis on angiography.
 - c) Pulse is usually regular.
 - d) Skin is white in color.
- 12. Which of the following is a sign of irreversible acute limb ischemia?**
- a) Pallor.
 - b) Absent pulses.
 - c) Claudication pain.
 - d) Fixed color changes (blue-staining).
- 13. About embolism, all the following are true except:**
- a) Young age.
 - b) No collaterals.
 - c) Trophic changes.
 - d) The source of emboli may be undetectable.
- 14. About crush syndrome there will be:**
- a) Alkaline urine.
 - b) Hypovolemic shock.
 - c) Small percentage of patient develops acute renal failure.
 - d) Small percentage of the developed renal failure will need dialysis.

15. All of the following statements about acute ischaemia are true except:

- a) It may be caused by embolism, thrombosis and trauma.
- b) Marked swelling & turgidity of calf muscles are signs of reversible ischaemia
- c) Delay of capillary refilling is a sign of severe ischemia.
- d) Sensory loss may be reversible after revascularization.

16. A patient presented with acute lower limb ischemia, which of the following findings will suggest acute embolism?

- a) Past history of claudication.
- b) Recent history of myocardial infarction.
- c) Motor car accident with fracture pelvis & femur.
- d) Recent history of repeated vomiting & diarrhea.

17. The most important prognostic sign of acute ischemia of a limb is:

- a) Pallor.
- b) Cold skin.
- c) Muscle turgor.
- d) Muscular paralysis.

18. The most common presenting symptom of acute arterial occlusion is:

- a) Pain.
- b) Pallor.
- c) Paraesthesia.
- d) Pulselessness.

19. All the following may be present in acute ischemia except:

- a) Pallor.
- b) Coldness.
- c) Paresthesia.
- d) Loss of erectile function.

20. Indications of amputation include all the following except:

- a) Tense calf.
- b) Absent pulsation.
- c) Fixed color changes.
- d) Bulging anterior leg compartment.

21. The most urgent aspect in treatment of arterial embolism is:

- a) Digitalis
- b) Heparin
- c) Morphine
- d) Diuretics

22. The action of heparin in arterial embolism is to:

- a) Deal with cardiac problem.
- b) Prevent further embolization.
- c) Prevent propagation of thrombosis.
- d) All of the above.

23. As regard treatment of crush syndrome all the following are true except:

- a) Fasciotomy
- b) Alkalinization of urine
- c) Early mobilization.
- d) If gangrene → amputation.

24. Which one of the following is not a sclerosing agent?

- a) Ethanol.
- b) Sodium tetradecyl sulfate.
- c) Polidocanol
- d) Ethiodol.

25. Which of the following is not a side-effect of treatment of venous malformation using sclerosing agents?

- a) Deep vein thrombosis.
- b) Haemoglobinuria.
- c) Pulmonary hypertension.
- d) Gastric ulcer.

26. During treatment with a large amount of sclerosing agents for vascular malformation, the following measures are used to prevent acute renal failure associated with hemoglobinuria:

- a) Intravenous fluids.
- b) Intravenous mannitol.
- c) Intravenous sodium bicarbonate administration.
- d) All of the above.

27. A 55-year-old female presents with sudden onset severe right calf pain for 24 hours. On clinical examination she has right leg edema associated with tenderness in the calf. The most likely diagnosis is:

- a) Deep vein thrombosis.
- b) Ruptured popliteal cyst.
- c) Cellulitis.
- d) Congestive heart failure.

28. The surgeon should continue removing emboli till all of the followings occur, except:

- a) Pulses are felt again.
- b) Muscles become soft.
- c) Back-bleeding occurs.
- d) Limb becomes warm.

29. Which one of the following statements with regard to arteriovenous (AV) malformation is incorrect?

- a) AV malformations are direct arteriovenous communications.
- b) AV malformations can be associated with congestive heart failure.
- c) AV malformations may be associated with swelling and venous engorgement.
- d) AV malformations are often clinically inactive in the first and second decade of life.

30. The compartment most commonly affected in a lower leg compartment syndrome is the:

- a) Lateral compartment.
- b) Anterior compartment.
- c) Deep posterior compartment.
- d) Superficial posterior compartment.

31. A 60-year-old man with a history of atrial fibrillation is found to have a cyanotic, cold right lower extremity. What is the most appropriate management?

- a) Amputation.
- b) Arteriography.
- c) Embolectomy.
- d) Bypass surgery.

32. The following class of compression stocking is recommended for patients with severe lymphedema due to chronic venous insufficiency:

- a) Class I.
- b) Class II.
- c) Class III.
- d) Class IV

- 33. The main indication that limb death has occurred in acute ischemia is all of the following, except:**
- a) Paralysis.
 - b) Cold limb.
 - c) Loss of sensation.
 - d) Muscles are firm to hard.
- 34. A 24-year-old male cyclist undergoes repair of both popliteal artery and vein following a gunshot wound to the right knee. Thirty-six hours postoperatively, there is increasing swelling of the leg and foot, and the patient complains of increasing foot pain and inability to move his toes. His pedal pulses are palpable. What is the most immediate next step that should be undertaken?**
- a) Fasciotomy.
 - b) Venography.
 - c) Arteriography.
 - d) Leg and foot elevation.
- 35. Which of the following is not a component of Klippel-Trenaunay syndrome (KTS)?**
- a) Varicose veins.
 - b) Limb length discrepancies.
 - c) Port wine stains.
 - d) Muscular atrophy.
- 36. The investigation of choice for the diagnosis of deep vein thrombosis is:**
- a) Plethysmography.
 - b) Venous duplex scan.
 - c) Venography.
 - d) MRI.
- 37. The most common site of a varicose venous ulcer is:**
- a) Medial aspect of lower leg.
 - b) Lateral aspect of lower leg.
 - c) Heal of the foot.
 - d) Over the calf.
- 38. A 50-year-old female patient develops deep vein thrombosis (DVT) following total knee replacement. Anticoagulant therapy should be given for a period of:**
- a) Life-long.
 - b) 3 months.
 - c) 6 months.
 - d) 12 months.
- 39. The amount of pressure produced by class ii compression stockings used for chronic venous insufficiency is:**
- a) <25 mmHg.
 - b) 25-35 mmHg.
 - c) 35-45 mmHg.
 - d) 45-60 mmHg.
- 40. Which of the following clinical features is not a feature of venous claudication?**
- a) Bursting sensation after exercise.
 - b) Pain relief immediately after the cessation of exercise.
 - c) Pain relief after elevation of leg.
 - d) Generalized pain in leg following exercise.

41. A 35-year-old male with obstructive jaundice due to pancreatic carcinoma is admitted for percutaneous transhepatic biliary drainage following failed endoscopic retrograde cholangiopancreatography (ERCP). 24 hours post-procedure he develops a deep vein thrombosis of his right leg. He should be treated with anticoagulant for a minimum period of:

- a) 6 months.
- b) 12 months.
- c) Until definite surgery.
- d) Life-long.

42. Endovenous laser ablation therapy for varicose veins is associated with all of the following advantages, except:

- a) Reduced risk of nerve injury.
- b) It avoids neovascularization.
- c) It does not treat the varices.
- d) It is associated with less morbidity.

43. The nerve at risk of damage during stripping of the long saphenous vein is the:

- a) Sural nerve.
- b) Femoral nerve.
- c) Superficial peroneal nerve.
- d) Saphenous nerve.

44. The CEAP classification system is used to describe the severity and etiology of:

- a) Lower limb venous disease.
- b) Lower limb arterial disease.
- c) Lower limb lymphatic disease.
- d) All of the above.

45. The following nerve is at risk of damage during stripping of the short saphenous vein:

- a) Sural nerve.
- b) Femoral nerve.
- c) Superficial peroneal nerve.
- d) Saphenous nerve.

46. A 50-year-old male patient presents with severe bleeding following scratching of the skin over a prominent vein on the right medial aspect of the leg. The best option to control the bleeding is:

- a) Pressure application and elevation of the leg.
- b) Apply tourniquet above the bleeding point.
- c) Explore the wound under local anesthesia and ligate the source of bleeding.
- d) Urgent saphenofemoral junction ligation and stripping.

47. How long before the anticipated need for dialysis should arteriovenous fistulas be constructed?

- a) <1 week.
- b) 1-2 weeks.
- c) 2-4 weeks.
- d) 4-6 weeks.

48. The right internal jugular vein is the preferred site for central venous catheterization because:

- a) It provides a direct route to the superior vena cava.
- b) It is associated with no complications.
- c) It can be used for a long duration.
- d) There is less risk of damage to the thoracic duct.

49. Arteriovenous fistulas are preferred over arteriovenous grafts for providing access to hemodialysis for all of the following reasons, except:

- a) Lower infection rate.
- b) Higher patency.
- c) Requires fewer revisions.
- d) Can be used as soon as the wounds have healed.

50. The preferred central vein for venous catheterization is the:

- a) Subclavian vein.
- b) Cephalic vein.
- c) Internal jugular vein.
- d) Brachial vein.

51. What percentage of arteriovenous fistulas remains patent but never achieves an adequate flow for dialysis?

- a) 1%.
- b) 5%.
- c) 10%.
- d) 25%.

52. The nerve at risk of damage during sapheno-popliteal disconnection is the:

- a) Superficial peroneal nerve.
- b) Common peroneal nerve.
- c) Sural nerve.
- d) Saphenous nerve.

53. Which of the following is the contraindication for varicose vein surgery?

- a) Deep vein thrombosis.
- b) Ankle flare.
- c) Lipodermatosclerosis.
- d) Venous bleeding.

54. Lipodermatosclerosis is associated with:

- a) Chronic venous insufficiency.
- b) Peripheral arterial disease.
- c) Chronic lymphedema.
- d) A and C.

55. The most common cause of arteriovenous fistula graft dysfunction is:

- a) Stenosis.
- b) Infection.
- c) Thrombosis.
- d) Steal phenomenon

56. The majority of stenosed arteriovenous fistulas can be treated with:

- a) Angioplasty.
- b) Stenting.
- c) Surgical repair.
- d) Thrombolysis.

57. The most preferred site for the formation of an arteriovenous fistula is the:

- a) Radiocephalic fistula.
- b) Ulnabasilic fistula.
- c) Brachiocephalic fistula.
- d) Brachiobasilic fistula.

58. The most common complication associated with endovascular repair of a thoracic aortic aneurysm is:

- a) Infection.
- b) Spinal cord ischemia.
- c) Endoleak.
- d) Upper limb ischemia.

59. The most common cause of acute mesenteric ischemia is:

- a) Embolic occlusion of the superior mesenteric artery.
- b) Thrombosis of the superior mesenteric artery.
- c) Stenosis of the superior mesenteric artery;
- d) Iatrogenic occlusion of the superior mesenteric artery with endograft.

- 60. The artery not affected by Takayasu's arteritis is the:**
- a) Radial artery.
 - b) Subclavian artery.
 - c) Common carotid artery.
 - d) Renal artery.
- 61. A 75-year-old female with peripheral arterial disease and angina presents with a 3-months history of post-prandial abdominal pain associated with progressive weight loss. On clinical examination the patient is lean with no other obvious findings. The most likely diagnosis is:**
- a) Peptic ulcer disease.
 - b) Chronic mesenteric ischemia.
 - c) Diverticular disease.
 - d) Gastric malignancy.
- 62. The most common cause of true visceral artery aneurysm is:**
- a) Trauma.
 - b) Mycotic.
 - c) Atherosclerosis.
 - d) Syphilis.
- 63. The most common site of visceral artery aneurysm is the:**
- a) Hepatic artery.
 - b) Superior mesenteric artery.
 - c) Celiac artery.
 - d) Splenic artery.
- 64. A 65-year-old male patient is diagnosed with a 6.5 cm descending thoracic aneurysm following investigation for nonspecific chest pain. Apart from the history of mild angina, the patient is fit and healthy. The treatment of choice is:**
- a) No treatment required.
 - b) Open surgical repair.
 - c) Endovascular repair.
 - d) Surveillance by computed tomography (CT) scan.
- 65. All of the following conditions are associated with thoracic aorta aneurysm, except:**
- a) Marfan's syndrome.
 - b) Turner syndrome.
 - c) Reiter's disease.
 - d) Ehlers-Danlos syndrome.
- 66. The treatment of choice in a patient with complicated type b thoracic aortic dissection is:**
- a) Open surgical repair.
 - b) Endovascular repair.
 - c) Medical management.
 - d) None of the above.
- 67. The most common site of traumatic thoracic aortic injury is:**
- a) Isthmus of the aorta.
 - b) Root of the aorta.
 - c) Lower part of the descending thoracic aorta.
 - d) Arch of the aorta.

- 68. Which one of the following statements regarding the prevalence of abdominal aortic aneurysm is incorrect?**
- a) It is six times more common in women.
 - b) 25% of patients have co-existing femoral and popliteal artery aneurysms.
 - c) Prevalence increases with age.
 - d) Infrarenal aortic aneurysm is the most common abdominal aortic aneurysm.
- 69. Which one of the following statements regarding infrarenal aortic aneurysm is incorrect?**
- a) 75% of patients are symptomatic at the time of diagnosis.
 - b) Rapid expansion of > 1 cm is an indication for intervention.
 - c) 75% of patients with rupture die before reaching the hospital.
 - d) Infrarenal aortic aneurysm >5.5 cm is an indication for intervention.
- 70. The investigation of choice used in the screening for abdominal aortic aneurysm is:**
- a) Doppler ultrasound.
 - b) Ultrasound.
 - c) Computed tomography (CT) scan.
 - d) Magnetic resonance imaging (MRI).
- 71. The most appropriate interval for screening of abdominal aortic aneurysms between 4.5-5.4 cm is:**
- a) 3 months.
 - b) 6 months.
 - c) 12 months.
 - d) 24 months.
- 72. Survival following abdominal aortic aneurysm rupture is poor in all of the following groups of patients, except:**
- a) Elderly patients.
 - b) Patients who suffered from cardiac arrest.
 - c) Patients who are persistently unconscious.
 - d) Patients with low/absent urine output.
- 73. Which one of the following factors is not included in the calculation of the Glasgow aneurysm score used in the risk stratification for assessing a patient's suitability for abdominal aortic aneurysm surgery?**
- a) Age.
 - b) Size of aneurysm.
 - c) Renal dysfunction.
 - d) History of cerebrovascular disease.
- 74. The size of asymptomatic common iliac aneurysm above which treatment is indicated is:**
- a) 2.5 cm.
 - b) 2.5-3 cm.
 - c) 3-4 cm.
 - d) >4 cm.
- 75. The annual risk of rupture of an abdominal aortic aneurysm measuring 4-5 cm is:**
- a) 0%.
 - b) 9.4%.
 - c) 3.3%.
 - d) 1.1%.

84. The histological feature that is the hallmark of Buerger's disease is:

- a) Vessel wall necrosis.
- b) Vascular wall calcification.
- c) Atheromatous plaques.
- d) Acute hypercellular occlusive thrombus.

85. The most commonly affected arteries in Buerger's disease are the:

- a) Small and medium arteries of the distal limb.
- b) Medium-sized arteries of the proximal lower limb.
- c) Medium-sized arteries of the upper limb.
- d) Medium-sized arteries of the neck.

86. A 54-year-old female presents with sudden loss of vision in her right eye. She also has a history of intermittent temporal headache associated with fatigue and weight loss for the last 6-9 months. On clinical examination, she is blind in her right eye and there is tenderness over the superficial temporal area. The most likely cause of her symptoms is:

- a) Temporal arteritis.
- b) Takayasu's arteritis.
- c) Carotid artery stenosis.
- d) Polyarteritis nodosa.

87. The neurological symptoms associated with thoracic outlet syndrome are mainly due to compression of:

- a) C_{4,5} nerve roots.
- b) C_{5,6} nerve roots.
- c) C_{7,8} nerve roots.
- d) C_{8, t₁} nerve roots.

88. The risk factor for Buerger's disease is:

- a) Age.
- b) Diabetes.
- c) Smoking.
- d) Family history of Buerger's disease.

89. The mainstay of treatment of giant cell arteritis is:

- a) Corticosteroids.
- b) Methotrexate.
- c) Calcium and vitamin D therapy.
- d) NSAIDs.

90. Buerger's disease affects the:

- a) Tunica intima.
- b) Tunica media.
- c) Tunica adventitia.
- d) All of the above.

91. The majority of patients with thoracic outlet syndrome present with:

- a) Arterial symptoms.
- b) Venous symptoms.
- c) Neurological symptoms.
- d) Arterial and venous symptoms.

92. The most common cause of ischemic stroke is:

- a) Thromboembolism of the internal carotid artery.
- b) Small vessel disease.
- c) Cardiogenic brain embolism.
- d) Fibromuscular dysplasia of the carotid artery.

- 93. The ABCD scoring system is used to predict the:**
- a) 7 -day risk of stroke after a transient ischemic attack.
 - b) Risk of mortality following a transient ischemic attack.
 - c) 7 -day risk of mortality following a stroke.
 - d) Response to medical management following a stroke.
- 94. Virchow's triad includes all of the following, except:**
- a) Venous stasis.
 - b) Injury to veins.
 - c) Blood hypercoagulability.
 - d) Venous thrombosis.
- 95. The maximum score that can be achieved in the ABCD scoring system used to predict the 7-day risk of stroke after a transient ischemic attack is:**
- a) 4.
 - b) 6.
 - c) 8.
 - d) 12.
- 96. Which one of the following features is not a classical symptom associated with thromboembolism of the carotid artery?**
- a) Hemi-motor weakness.
 - b) Amaurosis fugax.
 - c) Dysphagia.
 - d) Homonymous hemianopia.
- 97. An urgent carotid endarterectomy is recommended in:**
- a) Patients with stroke in evolution.
 - b) Patients with stuttering hemiplegia.
 - c) Patients with extensive neurological deficits.
 - d) Patients with a crescendo transient ischemic attack.
- 98. Statins work by inhibiting:**
- a) Absorption of cholesterol.
 - b) Transport of cholesterol.
 - c) Cholesterol biosynthesis.
 - d) All of the above.
- 99. The diagnostic investigation of choice for pulmonary embolism is:**
- a) CT scan.
 - b) MRI.
 - c) Contrast MRI.
 - d) Ventilation perfusion scan.
- 100. The artery that is most commonly affected by atherosclerosis is the:**
- a) Superficial femoral artery.
 - b) Popliteal artery.
 - c) Anterior tibial artery.
 - d) Aortic bifurcation.
- 101. A 65-year-old patient with a past history of smoking and hypertension and a history of intermittent pain in the right leg for 6 months is referred by a general practitioner. The pain is worse after walking a short distance and on standing for prolonged periods. The pain is relieved by sitting down and lying down. The most likely cause of the pain is:**
- a) Intermittent claudication due to peripheral arterial disease.
 - b) Spinal stenosis.
 - c) Osteoarthritis of the hip.
 - d) Prolapsed intervertebral disc with nerve root compression.

- 102. Diabetic patients on metformin requiring contrast enhanced computed tomography (CT) should stop taking metformin 48 hours before the procedure. The rationale behind this is:**
- a) To prevent lactic acidosis.
 - b) To prevent renal failure.
 - c) To avoid anaphylaxis.
 - d) To prevent ketoacidosis.
- 103. A 20-year-old male patient with no significant past medical and family history presents with intermittent claudication in his left calf for 6 months. His angiogram demonstrates narrowing at the right external iliac artery. The most likely cause is:**
- a) Buerger's disease.
 - b) Cystic adventitial disease.
 - c) Fibromuscular dysplasia.
 - d) Atherosclerosis.
- 104. A 58-year-old male patient presenting with intermittent claudication in his left calf is diagnosed with popliteal artery stenosis. His claudication distance is getting worse and at present he can barely walk up to 50 yards. He is already on maximal medical therapy. The most preferred treatment of choice is:**
- a) Angioplasty.
 - b) Femoro-popliteal bypass.
 - c) Stenting.
 - d) None of the above.
- 105. A 45 -year-old businessman with a history of progressive claudication in his right leg is diagnosed with complete superficial femoral artery occlusion on CT angiogram. The preferred treatment of choice for this patient is:**
- a) Angioplasty.
 - b) Iliofemoral bypass.
 - c) Stenting.
 - d) Medical therapy.
- 106. The antihypertensive drug of choice in patients with peripheral arterial disease is:**
- a) Ace inhibitors.
 - b) B-blockers.
 - c) Calcium-channel blockers.
 - d) Bendroflumethiazide.
- 107. The most common organism causing infection in patients with diabetic foot ulcer is:**
- a) Escherichia coli.
 - b) Pseudomonas species.
 - c) Staphylococcus aureus.
 - d) Clostridium species.
- 108. A 35-year-old male patient presents with active bleeding from the right groin after being involved in a road traffic incident. Following fluid resuscitation he is taken to theatre for exploration of the right groin. At exploration more than 50% of the circumference of the superficial femoral artery is damaged. The best way to repair the artery is:**
- a) Excision of the damaged area and end-to-end anastomosis.
 - b) Direct suture repair.
 - c) Ligation above the damaged area and an ilea femoral bypass.
 - d) Repair using a prosthetic graft.

- 109. The procedure of choice in patients with iliac artery occlusion is:**
- a) Angioplasty.
 - b) Iliac stenting.
 - c) Aorto-iliac revascularization.
 - d) Medical therapy.
- 110. Cilostazol is a phosphodiesterase III inhibitor and it has been shown to significantly improve maximal and pain-free walking distance in patients with intermittent claudication. It has all of the following properties, except:**
- a) Vasodilatation.
 - b) Anti-thrombotic.
 - c) Anti-platelet.
 - d) Anti-cholesterol.
- 111. Diabetic foot ulcers are:**
- a) Neuropathic in origin.
 - b) Ischemic in origin.
 - c) Neuro-ischemic in origin.
 - d) Infective in origin.
- 112. The procedure of choice in patients with iliac artery stenosis is:**
- a) Angioplasty.
 - b) Iliac stenting.
 - c) Aorto-iliac revascularization.
 - d) Medical therapy.
- 113. The preferred thrombolytic drug of choice in patients with acute critical limb ischemia is:**
- a) Tissue plasminogen activator (TPA).
 - b) Streptokinase.
 - c) Urokinase.
 - d) Heparin.
- 114. The preferred diagnostic modality for the evaluation of zone ii vascular injuries of the neck is:**
- a) Duplex Doppler.
 - b) Ultrasound examination.
 - c) Angiography.
 - d) Ct scan.
- 115. The ankle brachial pressure index is the most useful non-invasive investigation in patients with peripheral vascular disease. However, it may be falsely elevated in one of the following conditions:**
- a) Diabetes.
 - b) Hypertension.
 - c) Following femoro-popliteal bypass.
 - d) Varicose veins.
- 116. The most common cause of acute lower limb ischemia is:**
- a) Embolism associated with atrial fibrillation.
 - b) Thrombosis secondary to atherosclerosis.
 - c) Mural thrombosis associated with acute myocardial infarction.
 - d) Anti-phospholipid syndrome.
- 117. All of the following are contraindications for thrombolytic therapy, except:**
- a) Stroke within the last 2 months.
 - b) Active internal bleeding.
 - c) Pregnancy.
 - d) Vascular surgery within the last 6 weeks.

- 118. A 40-year-old male patient presents with a 6-hour history of sudden onset of pain in the right leg. There is no significant past medical history. On clinical examination he has an irregularly irregular pulse with a pulse rate of 130/min, and pulseless, pale right leg with loss of sensation. He is taken to theatre for exploration of the right femoral artery. A 5 cm embolus is removed and a check angiogram shows occlusion of the popliteal artery. The most appropriate next step in the management of this patient is:**
- a) Operative angioplasty.
 - b) Popliteal embolectomy.
 - c) Operative thrombolysis.
 - d) Distal bypass.
- 119. A 25-year-old male patient involved in a road traffic incident is brought into A&E. On arrival, he is complaining of central chest pain. On examination, he is conscious with a GCS of 15/15 and other observations were normal. He is tender over the manubrium sterni. As a part of trauma series a chest X-ray is taken which shows depression of the left main stem bronchus and associated widening of the mediastinum > 8cm. The next appropriate step in the management of this patient is:**
- a) Repeat chest X-ray 24 hours later.
 - b) Spiral computed tomography of the chest.
 - c) Angiography.
 - d) Thoracotomy.
- 120. Which of the following statements regarding subclavian steal syndrome is true?**
- a) There is reversal of blood flow in the ipsilateral vertebral artery.
 - b) There is reversal of blood flow in the contralateral carotid artery.
 - c) There is reversal of blood flow in the contralateral vertebral artery.
 - d) There is bilateral reversal of blood flow in the vertebral arteries.
- 121. Which one of the following features is not a hard sign of vascular injury requiring exploration?**
- a) History of severe bleeding.
 - b) Absent distal pulses.
 - c) Expanding hematoma.
 - d) Signs of acute ischemia.
- 122. The risk of mortality in patients with acute ischaemic limb due to embolism is high. All of the following are underlying risk factors, except:**
- a) Poor cardiac function.
 - b) Associated peripheral vascular disease.
 - c) Long duration of symptoms.
 - d) Need for amputation.
- 123. A 60-year-old male patient presents with a gunshot wound injury to the right side of the neck. Helical CT angiography shows a thrombosed right-sided vertebral artery with no other vascular injury. The treatment of choice for this patient is:**
- a) Angiography and thrombolysis.
 - b) Thrombectomy and repair.
 - c) No further treatment is required, if patient is hemodynamically stable.
 - d) Ligation of the vertebral artery.

124. A 50-year-old male, a heavy alcoholic and smoker, presents with a 3-hour history of increasing shortness of breath. He started having this pain while eating, which is constant and radiates to the back and inter-scapular region. He is a known hypertensive. On examination, he is cold and clammy with a heart rate of 130/min and BP of 80/40 mmHg. JVP (jugular venous pressure) is normal. All peripheral pulses are present and equal. Breath sounds are decreased at the left lung base and chest X-ray shows left pleural effusion. Which one of the following is the most likely diagnosis?
- a) Acute aortic dissection. c) Rupture of the esophagus.
b) Acute myocardial infarction. d) Acute pulmonary embolism.
125. The most likely diagnosis in a patient with local gigantism of the leg associated with increased pulsation of the lower limb veins is:
- a) Soft tissue sarcoma. b) Arteriovenous fistula. c) Varicose veins.
d) Incompetence of the sapheno-femoral junction.
126. Which one of the following is not a feature of arterial occlusion?
- a) Cyanosis. b) Pallor. c) Paralysis. d) Paraesthesia.
127. Neo-intimal hyperplasia causes vascular graft failure as a result of hypertrophy of:
- a) Endothelial cells. c) Smooth muscle cells.
b) Collagen fibers. d) Elastic fibers.
128. Sympathectomy is effective in all of the following conditions, except:
- a) Intermittent claudication. c) Raynaud's disease.
b) Hyperhidrosis. d) Causalgia.
129. Mycotic aneurysms are secondary to:
- a) Fungal infection.
b) Blood borne infection (intravascular).
c) Infection introduced from outside (extravascular).
d) Both intravascular and extravascular infection.
130. All of the following statements regarding AV fistula are correct, except:
- a) It causes arterialization of the veins.
b) Proximal compression causes an increase in heart rate.
c) It causes LV enlargement and failure.
d) None of the above.
131. Bilateral pulseless disease in the upper limbs is caused by:
- a) Aorta-arteritis. c) Fibromuscular dysplasia.
b) Coarctation of the aorta. d) Buerger's disease.

- 132. The best indication for lumbar sympathectomy in Buerger's disease is:**
- a) Pain at rest.
 - b) Intermittent claudication.
 - c) Ulceration of the foot.
 - d) Gangrene of the foot.
- 133. All of the following statements about axillary vein thrombosis are correct, except:**
- a) It may be caused by a cervical rib.
 - b) It is treated with intravenous anticoagulant.
 - c) Embolectomy is performed in all cases.
 - d) It may occur following excessive exercise.
- 134. The sympathetic ganglia spared in lumbar sympathectomy is:**
- a) L₁.
 - b) L₂.
 - c) L₃.
 - d) L₄.
- 135. Which of the following statements regarding intermittent claudication is incorrect?**
- a) If it occurs in an upper limb, it is known as writer's spasm.
 - b) It can occur when sitting for a long time in a cramped position
 - c) It appears as a cramp-like pain.
 - d) It is relieved by rest.
- 136. Intra-arterial thrombolysis is best achieved with:**
- a) Streptokinase.
 - b) Urokinase.
 - c) TPA infusion.
 - d) Pulse-spray TPA (tissue plasminogen activator).
- 137. In a traumatized patient showing signs of fracture and acute ischemia:**
- a) Urgent repair of the affected vessel
 - b) Urgent ligation of the affected vessels
 - c) Reduction of the fracture and waiting for return of pulse is the 1st step
 - d) None of the above
- 138. The best method to control bleeding in the street is:**
- a) Direct local pressure.
 - b) Tourniquet.
 - c) Stitching.
 - d) Packing.
- 139. In trauma causing arterial spasm treatment may include:**
- a) Painting the artery with papaverine.
 - b) Dilatation by Fogarty catheter.
 - c) Excision and grafting.
 - d) All of the above
- 140. Regarding the pathological types of arterial injuries, select the right answer:**
- a) Complete tear can lead to pseudoaneurysm.
 - b) Popliteal tear is associated with less gangrene.
 - c) Arterial spasm is treated by local hot fomentations.
 - d) Arterial contusion -thrombosis is common with closed injuries.
- 141. The most common cause of chronic ischemia:**
- a) Arteritis.
 - b) Burger's disease.
 - c) Atherosclerosis.
 - d) Raynaud's disease.

- 142. Which statement is incorrect concerning Buerger's disease?**
- a) Is a segmental occlusive disease of both arteries and veins.
 - b) Is particularly common in heavy smokers.
 - c) May be preceded by phlebitis migrans.
 - d) Affects large arteries only.
- 143. A homeless elderly man is brought to the emergency department after sustaining frostbite to both feet. What is the most appropriate immediate management?**
- a) Amputation of the gangrenous toes.
 - b) Slow rewarming at room temperature
 - c) Rapid rewarming with warm water.
 - d) Rapid rewarming with hot water or dry heat.
- 144. A young patient sustains blunt trauma to his right knee that results in acute thrombosis of his popliteal artery. Which tissue is most sensitive to ischemia?**
- a) Muscle
 - b) Nerve
 - c) Bone
 - d) Skin
- 145. A 34-year-old man is brought into the emergency department with a large open knife wound to the left thigh. The patient's systolic blood pressure is 90 mmHg. Blood is spurting from the wound. What is the initial management step?**
- a) Clamp the bleeding artery with a vascular clamp.
 - b) Apply a tourniquet 7.5 cm above the wound.
 - c) Apply direct pressure with sterile gauze.
 - d) Insert central venous access line.
- 146. Which of the following is/are not independent risk factors for the development of coronary and peripheral atherosclerosis?**
- a) Hypertension.
 - b) Cigarette smoking.
 - c) Hypercholesterolemia.
 - d) Hypercoagulable conditions.
- 147. About Buerger's disease, all the following statements are true, except:**
- a) It affects male only.
 - b) Pain is an early symptom.
 - c) It mostly affects the iliac arteries.
 - d) Arterial reconstruction is not possible.
- 148. Which of the following is the most common site of atherosclerotic occlusion in the lower extremities?**
- a) Profunda femoris
 - b) Common femoral artery
 - c) Proximal superficial femoral artery
 - d) Distal superficial femoral artery
- 149. The first muscle to be affected in le riche syndrome:**
- a) Vastus lateralis
 - b) Vastus medialis
 - c) Vastus intermediate.
 - d) None of the above.

- 150. Which one of the following diseases will manifest by phlebitis migrans?**
- a) Erythema nodosum.
 - b) Polyarteritis nodosa.
 - c) Endarteritis obliterans.
 - d) Thromboangitis obliterans.
- 151. Superficial thrombophlebitis may complicate:**
- a) Varicose veins
 - b) Abscess
 - c) Trauma.
 - d) All of the above
- 152. The proper treatment of superficial thrombophlebitis is:**
- a) Antibiotics.
 - b) Venoligation.
 - c) Anticoagulants.
 - d) Walking with elastic stockings.
- 153. The Cockett perforator veins are located in the**
- a) Medial thigh.
 - b) Lateral thigh.
 - c) Medial lower leg.
 - d) Lateral lower leg.
- 154. The term venous pump refers to:**
- a) The left atrium.
 - b) A part of auto transfusion apparatus
 - c) The apparatus for rapid transfusion of blood.
 - d) Musculofascial anatomy and physiology of calf.
- 155. The Brodie-Trendelenburg test is used to detect:**
- a) The integrity of the long saphenous vein.
 - b) The presence of deep femoral vein thrombosis,
 - c) The presence of valves in the inferior vena cava.
 - d) The presence of an incompetent valve at the saphenofemoral junction
- 156. A woman has bilateral leg edema associated with thick, darkly pigmented skin. A Trendelenburg's test is done, and results are interpreted as positive/positive. What does this patient have?**
- a) Competent varicose veins/competent perforators
 - b) Competent varicose veins/incompetent perforators
 - c) Incompetent varicose veins/competent perforators
 - d) Incompetent varicose veins/incompetent perforators
- 157. Which of the following are indications for surgery in varicose veins?**
- a) Recurrent haemorrhage.
 - b) Deep vein thrombosis.
 - c) Cosmesis.
 - d) Itching.
- 158. A 21-year-old woman is referred to your office because of multiple lower extremity varicose veins. She has large varicosities in the distribution of the long saphenous vein. What is the next step in management?**
- a) A ligation and stripping operation
 - b) Compression stockings and anticoagulation therapy
 - c) Ligation of both the long and short saphenous system
 - d) Duplex evaluation along with clinical correlation as an essential initial step

159. Indication of surgery in varicose vein (VV) is:

- a) 2ry VV
- b) Mild 1ry VV
- c) Large 1ry VV
- d) All of the above

160. Stripping operation may cause injury of:

- a) Sural nerve
- b) Sciatic nerve.
- c) Obturator nerve.
- d) Saphenous nerve.

161. Severe prolonged venous congestion of the lower limbs may result in an acute inflammatory condition known as acute lipodermatosclerosis. The main line of treatment in this condition is:

- a) Venotonic drugs and broad spectrum antibiotic.
- b) Broad spectrum antibiotic and external compression.
- c) Anti-inflammatory drugs and external compression.
- d) Anti-inflammatory drugs and broad spectrum antibiotic.

162. A 32-year-old healthy male presented with symptomatic varicosity of the long saphenous vein. Duplex ultrasound showed severe sapheno-femoral reflux normal deep venous system and competent leg perforators. What treatment would you advise?

- a) Saphena-femoral disconnection (Trendelenburg's operation)
- b) Stripping of the long saphenous in the thigh only
- c) Stripping of the long saphenous in the leg and thigh
- d) Elastic compressing stocking

163. The most common cause of leg ulcer is:

- a) Traumatic ulcer.
- b) Ischaemic ulcer.
- c) Venous ulcer.
- d) TB ulcer.

164. Phlegmasia alba dolens or white leg is due to:

- a) Femoral deep vein thrombosis
- b) Thrombosis of IVC and lymphatic obstruction
- c) Iliofemoral vein thrombosis plus lymphatic obstruction
- d) None of the above.

165. Symptoms of varicose veins are commonly aching pain and fatigue. These are greatest in which of the following?

- a) Telangiectasia
- b) Reticular varicosities
- c) Large subcutaneous varicosities
- d) Symptoms unrelated to size.

166. A patient presents with bleeding varicose veins, the most immediate management you will do is:

- a) Injection sclerotherapy of the veins.
- b) Laser coagulation of the bleeding vein.
- c) Direct compression and limb elevation.
- d) Direct surgical attack of the bleeding veins.

- 167. A patient with chronic deep venous insufficiency developed acute inflammation due to lipodermatosclerosis. The main line of treatment is:**
- a) Broad spectrum antibiotics
 - b) Deep venous thrombectomy
 - c) Saphenous vein stripping
 - d) Compression elastic stockings
- 168. Severe venous dysfunction is characterized by ankle hyperpigmentation, induration, and open leg ulcers. The most appropriate name for this condition is:**
- a) Stasis ulceration
 - b) Marjolin's ulcer
 - c) Postphlebitic state
 - d) Chronic venous insufficiency
- 169. A 24-year-old woman on oral contraceptive pills develops an episode of deep vein thrombosis that is adequately treated with anticoagulation. She is at increased risk of developing which of the following?**
- a) Recurrent foot infections
 - b) Postphlebotic syndrome
 - c) Superficial varicose veins
 - d) Pulmonary embolism
- 170. What is the most common cause of a congenital hypercoagulable disorder**
- a) Protein S deficiency
 - b) Protein C deficiency
 - c) Antithrombin III deficiency
 - d) Activated protein C resistance (APC-R, factor V Leiden mutation)
- 171. The most common cause of bilateral lower extremity edema is:**
- a) Lipedema
 - b) Renal failure
 - c) Cardiac failure
 - d) Hepatic failure
- 172. The most common cause of chronic unilateral lower extremity edema is:**
- a) Myositis.
 - b) Lipedema.
 - c) Tendonitis.
 - d) Venous insufficiency.
- 173. Pulmonary embolism is best diagnosed by:**
- a) MRI.
 - b) Spiral CT.
 - c) Doppler.
 - d) Chest X-ray.
- 174. Primary treatment of pulmonary embolism consists of:**
- a) Thrombectomy.
 - b) Anticoagulation.
 - c) Pulmonary embolectomy.
 - d) Inferior vena cava ligation.
- 175. In a patient with chronic venous insufficiency due to residual deep venous obstruction, which of the following describes the clinical picture of his limb?**
- a) Soft pitting edema with pigmentation and eczema
 - b) Hard pitting edema without pigmentation and eczema
 - c) Soft pitting edema without pigmentation and eczema
 - d) Hard pitting edema with pigmentation and eczema

- 176. The commonest cause of fatal pulmonary embolism is**
- a) Phlebitis migrans.
 - b) Calf vein thrombosis.
 - c) Iliac vein thrombosis.
 - d) Axillary vein thrombosis.
- 177. Treatment of massive pulmonary embolism includes:**
- a) Thrombolitics.
 - b) Cardiac catheterization.
 - c) Pulmonary embolectomy.
 - d) All of the above
- 178. A 53-year-old man with type 2 diabetes presents with ulcers over the tips of the first and second left toes. His pulses are normal in the left femoral artery and popliteal artery, and no palpable pulses are found in the left foot. The ABI in his left leg is 0.4. Which of the following is the best treatment?**
- a) Local debridement, wound care, and systemic antibiotics
 - b) Local debridement, wound care, systemic antibiotics, and hyperbaric oxygen therapy
 - c) Local debridement, wound care, antibiotics, angiography and revascularization
 - d) Local debridement, wound care, and if no improvement left below the knee amputation
- 179. Which of the following options is not a part of the PEDIS evaluation process for foot ulcers?**
- a) Wound depth
 - b) Sensation
 - c) Size of ulcer
 - d) Duration of ulcer
- 180. Which of these factors contributes to polymicrobial diabetic foot infections?**
- a) Hyperglycemia
 - b) Patient age
 - c) Age of ulcer
 - d) Prior antibiotics treatment
- 181. Which of these statements regarding Charcot neuroarthropathy is true?**
- a) This is strongly associated with osteomyelitis
 - b) Bone fracture in the foot rules out the diagnosis
 - c) Charcot neuroarthropathy always occurs with foot ischemia
 - d) Bony destruction is a key radiographic feature
- 182. A 46-year-old diabetic male is being seen in the office for an ulcer of the right foot and ankle that appeared approximately 10 days ago. There is some tenderness over the lateral malleolus. An X-ray of the ankle does not show any abnormalities. Which of the following is most likely to help in the detection of osteomyelitis?**
- a) Needle aspiration of the region in question
 - b) MRI of the ankle
 - c) Bone biopsy
 - d) Radionucleotide scan of the ankle

- 183. A 55-year-old man with type 2 diabetes presents with complaint of “foot infection.” He is noted to have foul-smelling and purulent drainage from a 10 cm left plantar ulcer with exposed bone. His temperature is 39.4°C and blood pressure is 90/50 mmHg. The WBC count is 35,000 cells/mm³, and an X-ray indicates extensive osteomyelitis involving several metatarsal bones and gas within the soft tissue space in the lower leg. Which of the following is the most appropriate treatment?**
- a) Below the knee amputation
 - b) Piperacillin-tazobactam + clindamycin
 - c) Piperacillin-tazobactam + vancomycin and wound care
 - d) Below the knee amputation, piperacillin-tazobactam + metronidazole
- 184. A 51-year-old man presents for an appointment to your office for a recurrent foul-smelling diabetic foot infection. There does not seem to be ischemia in the soft tissue in the area. You noted that the infected area initially had improved after a 2-week course of vancomycin therapy. Which of the following is the best antimicrobial therapy for this patient at this time?**
- a) Metronidazole
 - b) Fluconazole
 - c) Clindamycin
 - d) Piperacillin-tazobactam
- 185. A 57-year-old man who works as a delivery man has left calf and thigh pain when he walks, and he is only able to walk 120 feet before stopping. He is worried that he may lose his job. The patient is a diabetic and takes an oral hypoglycemic agent, a long-acting β-blocker, and a statin. He smokes a pack of cigarettes each day. On examination, he has normal pulses in the right leg but no pulse in the left groin and leg. Which of the following is the most likely site of arterial occlusion?**
- a) His left iliac artery
 - b) His left superficial femoral artery
 - c) His descending thoracic aorta
 - d) His infra-renal aorta
- 186. A 49-year-old man with diabetes underwent laparoscopic colectomy 5 days ago. He now complains of right calf and thigh swelling and pain. His vital signs are normal. Which of the following is the most appropriate next step for this patient?**
- a) Begin systemic thrombolytic therapy
 - b) Perform CTA of the chest and CTV of the pelvis
 - c) Perform a pulmonary angiography
 - d) Perform lower extremity venous duplex scan

187. In which of the patients with confirmed femoral vein thrombosis is unfractionated heparin contraindicate?

- a) A hemodynamically stable 80-year-old man with symptomatic left femoral DVT
- b) A 20-year-old man who sustained a concussion (TBI with no CT abnormalities) during a car crash 8 days ago
- c) A 23-year-old woman in her third -trimester of pregnancy
- d) 44-year-old woman with heparin-induced thrombocytopenia

188. A 35-year-old man is hospitalized for right femur fracture suffered after a car crash. He develops dyspnea and pain in the left thigh on post-injury day 5. He subsequently underwent a V/Q scan that is interpreted as “low probability” for PE. Which of the following statements is most accurate?

- a) The probability of PE is less than 1%
- b) The probability of PE is as high as 40%
- c) A D-dimer assay should be obtained for confirmation
- d) Pulmonary angiography should be obtained to definitively rule out PE

3- The lymphatic system

1. The most effective therapy for lymphedema is:

- a) Compression stockings
- b) Surgical excision of the involved area
- c) Surgical bypass of the obstructed lymphatics
- d) Combined excision of affected areas with bypass of the obstructed lymphatics.

2. The most common form of lymphedema is

- a) Lymphedema tarda
- b) Lymphedema praecox.
- c) Congenital lymphedema.
- d) Secondary lymphedema.

3. The most common cause of lymphedema:

- a) Streptococcal lymphadenitis.
- b) Irradiation.
- c) Filariasis.
- d) Tumors.

4. The vector of *Filaria bancrofti* is:

- a) Sand fly
- b) Female anopheles
- c) *Culex pipiens*
- d) None of the above

5. filarial edema is:

- a) Pitting.
- b) Non-pitting.
- c) First pitting then non-pitting.
- d) First non-pitting then pitting.

6. An 18-year-old female presents with a 2-week history of swollen leg following a right ankle sprain. The most likely diagnosis is:

- a) Deep vein thrombosis.
- b) Ruptured popliteal cyst.
- c) Cellulitis.
- d) Lymphedema praecox.

7. History suggesting lymphedema include:

- a) Endemic area for filariasis.
- b) Recurrent erysipelas.
- c) Mastectomy.
- d) All of the above

8. Swiss roll cake operation is a surgical treatment of:

- a) VV
- b) DVT
- c) Lymphedema
- d) Chronic ischemia

9. Indication of surgical treatment of lymphedema:

- a) Edema becomes non-pitting.
- b) Recurrent cases.
- c) Disability.
- d) All of the above.

10. All of the following are true about filariasis except:

- a) It may lead to elephantiasis.
- b) Once treated, the lymphedema resolves.
- c) It is the commonest cause of secondary lymphedema.
- d) The mosquito is heavily implicated in this disorder.

11. Which of the following is true regarding the treatment of lymphoedema?

- a) The mainstay of management is bed rest.
- b) Compression stockings should provide a pressure of 20-40 mmHg at the ankle.
- c) Early treatment of infected episodes with penicillin is important.
- d) Exercise is contraindicated because of increased swelling.

12. For patients with edema of unknown etiology and suggested lymphedema, the most specific test to confirm the diagnosis is:

- a) Computed tomography.
- b) Lymphoscintigraphy.
- c) Magnetic resonance imaging.
- d) Conventional contrast lymphangiography.

13. Which of the following characteristics of leg swelling from venous insufficiency or lymphedema is true?

- a) Lymphedema can be diagnosed by ultrasound imaging.
- b) Edema forms when hydrostatic pressure in the interstitium is higher than that in the lymphatics or venules.
- c) Venous insufficiency causes pigmentation and hypertrophic changes in the skin over the ankle and results in the lymphedema with fibrosis.
- d) Operative intervention can treat venous insufficiency and is commonly used for lymphedema.

14. The following are causes of arm lymphedema except:

- a) Lymphangioma.
- b) Radical mastectomy
- c) Axillary radiotherapy.
- d) Axillary vein thrombosis.

15. A newborn girl with family history of lymphedema is noted to have bilateral lower extremity swelling. What is the diagnosis?

- a) Lymphedema tarda
- b) Lymphedema precox
- c) Meige disease
- d) Milroy disease

16. All of the following are true, except:

- a) Lymphangitis is usually caused by pseudomonas.
- b) Lymphangitis is indicated by red striking of the limb.
- c) Lymphangitis may predispose to further attacks.
- d) Lymphangitis may often result in bacteraemia.

17. Which of the following lymph nodes is a member of the vertical chain of cervical nodes?

- a) Facial.
- b) Occipital.
- c) Pretracheal.
- d) Submental.

18. Which is true regarding lymphatic anatomy?

- a) The limb lymphatic vessels are valveless.
- b) The lymphatic system begins just below the dermis as a network of fine capillaries.
- c) Red blood cells and bacteria do not enter lymphatic capillaries.
- d) Extrinsic factors (e.g. muscle contraction, arterial pulsations, respiratory movement, and massage) aid in the movement of lymph flow.

19. A 45-year-old woman comes to the emergency department complaining of pain in her left foot and calf. She reports that her left leg has been swollen for the last 5 years. She is febrile with a temperature of 38.60 °c. The left leg is swollen from the inguinal ligament down, and she has erythema of the foot and calf. Besides the obvious cellulitis, what is the most likely underlying diagnosis?

- a) DVT.
- b) Meige disease.
- c) Milroy disease
- d) Lymphedema tarda.

20. Which statement is true regarding the cause and complications of lymphedema?

- a) Milroy disease is a form of primary lymphedema that is gender linked.
- b) A lymph angiogram usually demonstrates a point of obstruction of the lymphatics in primary lymphedema.
- c) Primary lymphedema almost always progresses to involve both lower extremities.
- d) The major complication of lymphedema is the later development of lymphangiosarcoma.

21. Regarding the treatment of lymphedema, which of the following statements is true?

- a) Diuretics have a crucial role in the conservative management of early lymphedema.
- b) Pneumatic compression devices can damage the remaining lymphatics and should not be used.
- c) Microsurgically constructed lymphovenous shunts are far more effective than excisional procedures.
- d) All surgical procedures for lymphedema have significant failure rates.

22. A 45-year-old woman reports a recent onset of bilateral edema of the lower extremities. Which of the following statements is true about the appropriate workup?

- a) Aspiration of tissue fluid to measure protein content is appropriate.
- b) Ct is an unnecessary modality in the presence of bilateral disease.
- c) The diagnosis can be confirmed by means of lymphoscintigraphy.
- d) Laboratory tests and urinalysis are not very useful for diagnosis.

23. Indicate the incorrect statement about filarial elephantiasis:

- a) Usually affects the lower limbs and scrotum.
- b) Is rarely associated with other filarial lesions.
- c) Responds readily to antifilarial treatment.
- d) Is characterized by recurrent attacks of elephantoid fever.

24. All of the following are true about filariasis except:

- a) Once inoculated by a mosquito bite, the matured eggs enter the circulation to hatch and grow into adult worms.
- b) The adult worms cause lymphatic blockage resulting into massive limb edema.
- c) Chyluria and chylous ascites seen in cancers blocking lymphatics are never seen in filariasis.
- d) A mild form of the disease which affects the respiratory tract and presents with dry cough is called tropical pulmonary eosinophilia.

25. General therapeutic measures that should be employed for lymphedema include all of the following except:

- a) Meticulous skin care.
- b) Avoidance of injuries.
- c) Continuous long-term antibiotic therapy.
- d) Range of motion exercises of the extremities.

26. Which of the following is true about filariasis?

- a) Blood films often show elevated lymphocytes.
- b) Hydroceles are treated in the usual way but excess skin may need trimming.
- c) Elephantiasis can be easily treated with operations to reduce the size of the limb
- d) Medical treatment with diethylcarbamazepine (DEC) is effective even when huge elephantiasis occurs.

27. Which of the following statements regarding lymphoedema are true?

- a) Early treatment is usually successful.
- b) Early treatment includes surgical drainage.
- c) Fluid is relatively low in protein in lymphoedema.
- d) Lymphoedema often involves the muscle compartments.

28. the Kontoleon or Homans operation involves:

- a) Primary lymphatic to nearby vein anastomosis
- b) Primary lymphatic-to-lymphatic anastomosis
- c) Staged subcutaneous excision underneath flaps
- d) Transfer of lymphatic-bearing tissue into the affected limb

29. Lymphatic born TB lymphadenitis is more common in:

- a) Children b) Adults c) Elder people d) None of the above

30. The commonest 1ry complex of TB is:

- a) Tonsils+ lymph vessel + upper deep cervical LNs
- b) Lungs + lymphatic vessel + mediastinal LNs
- c) Intestine + lymphatic vessel + mesenteric LNs
- d) Skin + lymphatic vessel + cutaneous LNs

31. About lymphadenoid type of TB lymphadenitis, all the following are true, except:

- a) No matting.
- b) No caseation.
- c) No cold abscess.
- d) No affection of medulla.

32. Mycobacterium TB is cultured upon:

- a) Ordinary media.
- b) Media containing ZN stain.
- c) Media containing dried blood.
- d) Media containing malachite green.

33. about aspiration of cold abscess, all of the following is true, except:

- a) Z-technique.
- b) Dependant site.
- c) Complete aspiration
- d) Injection of streptomycin solution

34. About incision of the cold abscess, all of the following is true, except:

- a) Indicated if 2ry infection has occurred.
- b) Streptomycin powdering.
- c) Open deep fascia.
- d) Drain.

35. A collar-stud abscess refers to which disease process?

- a) Bacterial cervical lymphadenitis.
- b) Tuberculous cervical lymphadenitis.
- c) Infection of a necrotic malignant cervical LN.
- d) Tracking of a peritonsillar abscess into the parapharyngeal space.

36. All of the following cause generalized lymphadenopathy except:

- a) Epstein-Barr virus test (EBV).
- b) Leukemia.
- c) Late lymphoma.
- d) Caseous TB lymphadenitis.

37. T.B cervical lymphadenitis commonly affects:

- a) Submaxillary nodes.
- b) Posterior triangle nodes.
- c) Lower deep cervical nodes.
- d) Upper deep cervical nodes.

38. Fine-needle aspiration of fluctuating TB lymphadenitis should be:

- a) Direct and dependent.
- b) Vertical and dependent.
- c) Transverse and dependent.
- d) Spiral and nondependent.

39. Regarding lymph-borne (fibrocaseous) tuberculous lymphadenitis, select the right answer:

- a) Excision is the main line of treatment.
- b) Nodes are always separate and not matted.
- c) A cold abscess is neither cold nor an abscess.
- d) The commonest group affected is the deep inguinal group.

40. Tuberculous ulcers are characterized by the followings, except:

- a) Are commonest in the neck.
- b) Have thin bluish undermined edges.
- c) Produce a thick purulent discharge.
- d) May heal under conservative treatment.

41. Treatment of a tuberculous abscess of the neck is:

- a) Radiotherapy.
- b) Anti-tuberculous treatment only
- c) Excision with underlying lymph nodes.
- d) Repeated aspiration and antituberculous drugs.

42. A 35-year old female presented with cervical lymphadenopathy. Biopsy revealed Hodgkin's disease and chest X-rays showed widening of the mediastinum. The initial management should be:

- a) Radiotherapy.
- b) Chemotherapy.
- c) Staging laparotomy or CT scan.
- d) Combined radiation and chemotherapy.

43. The most common site of Hodgkin's lymphoma is:

- a) Axillary LNs
- b) Cervical LNs
- c) Abdominal LNs
- d) Mediastinal LNs

44. . The worst prognosis of Hodgkin's disease is with:

- a) Mixed cellularity.
- b) Nodular sclerosis
- c) Lymphocytic depleted.
- d) Lymphocytic predominance

45. About Hodgkin's disease, all the following are true, except:

- a) No caseation of LNs
- b) Unimodal age distribution
- c) Most commonly in cervical LNs
- d) No malignant cells in the blood stream

46. the malignant cells are present in the blood stream in:

- a) Leukemia
- b) Hodgkin's lymphoma
- c) Non-Hodgkin's lymphoma
- d) All of the above

47. Hodgkin's disease is associated with mutations in:

- a) P₅₃ gene.
- b) P₅₅ gene.
- c) O₇₅ gene.
- d) All of the above

48. The commonest site of Burkitt's lymphoma:

- a) CNS
- b) Jaw.
- c) Ovaries
- d) Retroperitoneal tissues

49. Staging of Hodgkin's disease should include which of the following?

- a) Coeliac lymph node biopsy.
- b) Liver biopsy.
- c) Splenectomy.
- d) All of the above.

50. Hodgkin's lymphoma with right sided neck nodes and left inguinal node without fever is of:

- a) Stage I_a.
- b) Stage II_a.
- c) Stage III_a.
- d) Stage IV_a.

51. Eleven years after undergoing right modified radical mastectomy, a 61-year-old woman develops raised red and purple nodules over the right arm. What is the most likely diagnosis?

- a) Lymphangitis
- b) Lymphedema
- c) Hyperkeratosis
- d) Lymphangiosarcoma.

52. Hodgkin's lymphoma:

- a) Stage III_a 70% 5-year survival with treatment.
- b) Stage I_a with lymphocyte predominance has 85% 5-year survival with treatment.
- c) Stages III and IV are treated by 6 cycles of chemotherapy plus radiotherapy to control bulky cervical lymph nodes.
- d) The MOPP regimen consists of mustine, vincristine, procarbazine and prednisone.

53. A 45-year-old male presented with a malignant posterior cervical lymph node with no obvious primary lesion on oral or indirect laryngoscopic examination. The most likely site of the primary is:

- a) Lung.
- b) Larynx.
- c) Thyroid.
- d) Nasopharynx.

54. Hodgkin lymphoma is a malignant lymphoma with four histologic subtypes, which of the following isn't one of subtypes:

- a) Leukocyte lymphocyte dominance.
- b) Lymphocyte predominance.
- c) Lymphocyte depletion.
- d) Mixed cellularity.

55. Regarding Hodgkin disease all of the following are true except:

- a) Commonly presents with lymphadenopathy above the diaphragm
- b) Can present with 2ry lymphedema if the inguinal LNs are involved.
- c) Clinical examination supplemented by CT chest gives accurate staging.
- d) Patients with lymphocytic predominance have the worst prognosis.

56. False regarding Hodgkin's disease:

- a) Usually presents in patients over 50 years.
- b) Usually presents as painful lymphadenopathy.
- c) Stage I disease is confined to one side of the diaphragm.
- d) Reed-sternberg cells are a diagnostic feature.

57. Regarding Hodgkin's disease:

- a) Surgical treatment is the only option.
- b) Should be staged by CT of chest and abdomen.
- c) Commonly presents with lymphadenopathy below the diaphragm.
- d) The mixed cellularity type has a better prognosis than lymphocytic predominance.

58. Regarding primary gastrointestinal lymphoma all are true, except:

- a) Is usually of low grade
- b) Is usually of a non-Hodgkin type
- c) CT provides a better overall assessment of the disease stage
- d) Primary gastrointestinal lymphoma is rare but is the most common presentation of the disease.

59. The following statements about Burkitt's lymphoma are correct, except:

- a) Is most common in central Africa.
- b) Is due to combined viral and malarial etiology.
- c) There is initial good response by chemotherapy.
- d) Has the same histological picture as Hodgkin lymphoma.

60. Non-Hodgkin's lymphomas differ from Hodgkin's disease in all of the following, except:

- a) Are not associated with fever or pruritis.
- b) Carry a poorer prognosis than Hodgkin's disease.
- c) Commonly occur in the very young and very old.
- d) Do not primarily involve the gastrointestinal tract.

61. Hodgkin's lymphoma:

- a) Have Reed-Sternberg cells.
- b) Burkitt's lymphoma is a subtype.
- c) Has a bad prognosis than non-Hodgkin.
- d) Lymphocyte depletion has a better prognosis.

62. Which of the following is not a marker of poor prognosis in Hodgkin's lymphoma?

- a) Pruritus.
- b) Weight loss more than 10% in the last six months.
- c) Night sweats.
- d) Reed-Sternberg cells in the bone marrow.

63. In a patient with Hodgkin's lymphoma with unilateral lymph node involvement, treatment of choice is:

- a) Irradiation
- b) Neck dissection
- c) Single drug chemotherapy
- d) Radiotherapy plus chemotherapy

64. Which of the following statements about primary lymphedema is false?

- a) Is due to congenital hypoplasia of lymphatics.
- b) Always manifests itself at birth.
- c) Usually affects the lower limbs.
- d) May be unilateral or bilateral.

65. Which of the following is not a risk factor for lymphoedema?

- a) Family history.
- b) A baker's cyst.
- c) Air travel.
- d) Obesity.

66. Which of the following statements regarding filariasis is false?

- a) It may lead to elephantiasis.
- b) It may be eradicated by antibiotics.
- c) The mosquito is heavily implicated in this disorder.
- d) Filariasis is the commonest cause of secondary lymphoedema.

67. All of the following are characteristics of lymphedema except:

- a) Sparing of the foot.
- b) Firm and hard consistency of edema.
- c) Skin changes such as development of peau d'orange, and hyperkeratosis.
- d) Loss of the normal perimalleolar shape resulting in a "tree trunk" pattern.

68. The following are causes of leg lymphedema except:

- a) Radiotherapy.
- b) Familial predisposition.
- c) Wuchereria bancrofti infection.
- d) Angioneurotic edema.

69. Regarding acute lymphangitis. Select the wrong answer:

- a) There is a cause, like paronychia.
- b) Red tender streaks proximal.
- c) May be associated with lymphadenitis.
- d) Treatment is by incision and drainage.

70. About Hodgkin's disease (drift back) expression means:

- a) Lower dose of treatment is needed after some time
- b) With time there is affection of the LNs draining the back
- c) With time the lesion becomes less differentiated
- d) None of the above

71. If a patient presented with enlarged cervical nodes. You need to do all of the following, except:

- a) Examine the breast.
- b) Examine the abdomen.
- c) Examine the mouth, pharynx and nose.
- d) Reassure the patient and give a course of antibiotics.

72. In a non-Hodgkin's lymphoma:

- a) It is more localized at time of presentation than Hodgkin's disease.
- b) Serum lactate dehydrogenase is a prognostic factor.
- c) The colon is the most common site of presentation.
- d) Few patients have bone marrow involvement.

73. In the management of non-Hodgkin's lymphomas, the following surgical procedures are useful except:

- a) Resection of bowel lesions.
- b) Excisional lymph node biopsy.
- c) Splenectomy for localized splenic involvement.
- d) Total gastrectomy for lesions of the stomach.

4- The Nerves

1. Sympathectomy is most effective in:

- a) Raynaud's disease.
- b) Buerger's disease.
- c) Scleroderma.
- d) Causalgia.
- a) Acrocyanosis.

2. Horner's syndrome is characterized by the following except:

- a) Ptosis of the upper eyelid.
- b) Constriction of the pupil (miosis).
- c) Flushing of the affected side of face.
- d) Excessive sweating of the same side of face.

3. Following repair of a completely transected peripheral nerve, regeneration usually proceeds at the daily rate of:

- a) 1 mm.
- b) 5 mm.
- c) 1 cm
- d) 1 inch
- e) 0.1 mm.

4. The signs of ulnar nerve injury at the wrist include the following except:

- a) Ulnar claw-hand deformity.
- b) Flattening of hypothenar eminence and hollowing of interosseous spaces.
- c) Failure to grip a sheet paper between two extended fingers.
- d) Weakness of hand grasp and of flexion of wrist.

- 5. Division of the median nerve above the wrist manifests itself clinically by the following signs except:**
- a) Ape-hand deformity.
 - b) Loss of opposition of thumb to little finger.
 - c) Preservation of pronation of forearm.
 - d) Pointing index during clasping the hands.
- 6. Delayed ulnar neuritis is due to**
- a) Fractures and dislocations in the elbow region.
 - b) Wounds of the arm, forearm and wrist.
 - c) Cubitus valgus deformity.
 - d) Neurofibromatosis.
- 7. A patient presents with numbness in the 1st, 2nd and 3rd toes. The nerves contributing to the numbness include:**
- a) Medial plantar nerve.
 - b) Lateral planter nerve.
 - c) Superficial peroneal nerve.
 - d) Sural nerve.
- 8. Ape hand deformity is due to paralysis of:**
- a) Extensors pollicis longus
 - b) Opponens pollicis
 - c) Adductor pollicis
 - d) All of the above
- 9. Clawing of any finger necessitates paralysis of the following muscle, except:**
- a) Lumbricals
 - b) Dorsal interossei
 - c) Palmar interossei
 - d) Abductour pollicis brevis
- 10. As regards expectant treatment of peripheral nerve injury all are correct except:**
- a) Is indicated in all nerve injuries
 - b) Only indicated in closed types
 - c) Include massage of active exercises
 - d) Usually continue for 6 months
- 11. All of the following are true about carpal tunnel syndrome except:**
- a) It is caused by entrapment of the median nerve at the wrist.
 - b) Flexion at the wrist bringing on symptoms known as Tinel's sign.
 - c) Risk factors include hyperthyroidism and pregnancy.
 - d) Patients often wake with pain and paraesthesia in the thumb, index and middle fingers.
- 12. The sympathetic nervous system arises from**
- a) Cranial nerves III, VII, IX, and X
 - b) Cranial nerves II, IV, V, and VII
 - c) The thoracolumbar spinal segments
 - d) Spinal segments S₂, S₃ and S₄

13. A 36-year-old man developed neck and left arm pain. He noted paresthesia in the left index and middle fingers. He was found to have weakness of the left triceps muscle and a diminished left triceps jerk. His left-sided disc herniation is most likely to be at:

- a) C₃-C₄. b) C₄-C₅. c) C₅-C₆. d) C₆-C₇.

14. In radial nerve crush injury, the most appropriate treatment is:

- a) Immediate exploration and repair.
b) EMG two weeks after injury and surgical intervention is indicated if the nerve conduction is not improved.
c) Surgical intervention in 12 weeks if no improvement occurs.
d) None of the above.

15. Following nerve injury, the worse prognosis is for:

- a) Pure motor nerve. c) Mixed nerve.
b) Pure sensory nerve. d) All of the above.

16. A 55-year-old female presents with 3-years history of severe lancinating pain extending from left ear to her maxillary area. Pain is triggered by chewing and brushing teeth. She was treated by otolaryngologist for sinus infection a year ago and undergone multiple dental work and teeth extraction with transient or no improvement. The most likely diagnosis is:

- a) Maxillary sinusitis c) Trigeminal neuralgia
b) Gradenigo's syndrome d) Maxillary osteomyelitis

17. The neurovascular structure most commonly injured as a result of an anterior dislocation of the shoulder is the:

- a) Musculocutaneous nerve. c) Axillary nerve.
b) Axillary artery. d) Median nerve.

18. Sciatic nerve injury manifests itself by the following signs except:

- a) Drop foot and clawing of the toes.
b) Anesthesia of whole leg and foot.
c) Trophic changes in sole of foot and toes.
d) Causalgia if the nerve lesion is partial.

19. An elderly male presented with a firm painless movable subcutaneous mass in his right side. The mass was excised and histological examination revealed that the mass was composed of palisade spindle cells with a peripheral nerve at one end. The next step in the management of this patient is to:

- a) Reassure the patient that the surgery was curative
b) Re-excite the area for wider margins.
c) Give prophylactic radiotherapy.
d) Re-examine the patient café-au-lait patches.

20. All of the following are true regarding congenital talipes equinovarus except:

- a) There is adduction at the tarso-metatarsal joints
- b) It is a relatively common deformity
- c) It is more common in females
- d) There is inversion of the calcaneus and the navicular on the tibia

21. Which of the following statements regarding peripheral nerve injury is false?

- a) Nerve repair is progressively less effective if delayed beyond 2 months after surgery.
- b) Nerve repair is best performed under 4 to 15 times magnification.
- c) Nerve repair is best performed in a fashion that minimizes tension across the repair.
- d) The use of conduits can assist in nerve regeneration.

22. As regards types of nerve injury all are correct except:

- a) Axontemesis has the best prognosis
- b) Neurontemesis is complete sectioning of nerve
- c) No wallerian degeneration occurs in neurapraxia
- d) All of the above

23. As regards expectant treatment of peripheral nerve injury all are correct except:

- a) Is indicated in all nerve injuries
- b) Only indicated in closed types
- c) Include massage of active exercises
- d) Usually continue for 6 months

24. As regards Klumpke's paralysis all are correct except:

- a) Means injury to upper trunk of brachial plexus
- b) The main presentation is complete clawing
- c) May be associated with Horner's syndrome
- d) Most common cause is complicated breech delivery

25. In cases of median nerve paralysis, the following muscle is expected to be paralyzed:

- a) Extensor pollicis longus
- b) Opponens pollicis
- c) Adductor pollicis
- d) Third lumbrical

26. Pseudomotor affection means:

- a) Loss of reflexes
- b) Loss of involuntary activities
- c) Loss of voluntary movements
- d) Loss of gland activities (anhydrosis)

27. Ulnar paradox occurs in ulnar injury:

- a) At the wrist
- b) Above the elbow
- c) Both of them
- d) None of them

28. Injury of radial nerve in spiral groove differs from injury in axilla in that:

- a) In injury in axilla there is loss of supination
- b) Injuries in spiral groove spares nerve supply to long head of triceps
- c) Extensors of wrist are not affected in injuries in spiral groove
- d) All of the above

29. Ape hand deformity is due to paralysis of:

- a) Extensors pollicis longus
- b) Opponens pollicis
- c) Adductor pollicis
- d) All of the above

30. Clawing of any finger necessitates paralysis of the following muscle:

- a) Dorsal interossei
- b) Lumbricals
- c) Palmar interossei
- d) All of the above

31. The most effective treatment of persistent causalgia is:

- a) Sympatholytics.
- b) Sympathectomy.
- c) Physiotherapy.
- d) None of the above.

32. Causes of carpal tunnel syndrome include all of the following except:

- a) Rheumatoid arthritis.
- b) After Colles' fracture.
- c) Cervical rib.
- d) Often associated with vascular disorder.

33. A patient presents with numbness in the 1st, 2nd and 3rd toes. The nerves contributing to the numbness include:

- a) Medial plantar nerve.
- b) Lateral plantar nerve.
- c) Superficial peroneal nerve.
- d) Sural nerve.

34. Foot drop may result from:

- a) Lumbar disc prolapse.
- b) Peripheral neuropathy.
- c) Fracture neck of fibula.
- d) All of the above.

35. Early sign in compartmental syndrome of the anterior compartment of leg is:

- a) Pressure pitting in limbs.
- b) Absent distal pulses or firm calf.
- c) Pain on passive stretching the affected muscles.
- d) Numbness and paraesthesia in the web space between the 1st and 2nd toes (deep pain).

36. Median nerve injury at the wrist results in the following except:

- a) Loss of sensation over the palmar aspect of the lateral three and half digits.
- b) Inability to oppose the thumb to the other fingers.
- c) Inability to flex the terminal phalanx of the thumb.
- d) Wasting of the thenar eminence.

37. True regarding nerve injury:

- a) In neurapraxia anatomic continuity of the axons is preserved, but there is selective demyelination
- b) Neurapraxia is a type of nerve injury in which the nerve is still in continuity but individual axons are disrupted.
- c) Recovery from neurotmesis requires surgical repair.
- d) Axonal sprouting begins 2 months after transection of a peripheral nerve.

38. Delivery of a fetus with shoulder presentation may be complicated by:

- a) Fracture dorsal spine
- b) Erb's' palsy
- c) Axillary nerve lesion
- d) None of the above

39. Fingers drop only, is sign of:

- a) Radial nerve lesion
- b) Anterior interosseous nerve lesion
- c) Posterior interosseous nerve lesion
- d) All the above

40. In ulnar nerve lesions at the wrist, the medial one third of dorsum of hand:

- a) Is anaesthetic
- b) Is hypoesthetic
- c) Is normal for sensation
- d) All the above.

41. Regarding ,upper limb peripheral nerve injuries all are true, except:

- a) Injury to the median nerve results in a wrist drop
- b) Injury to the median nerve results in loss of sensation over the palmar aspect of the index finger.
- c) Injury to the radial nerve results in loss of sensation in the anatomical snuffbox.
- d) Injury to the ulnar nerve results in a partial claw hand

42. The median nerve innervate all of the following muscles except:

- a) Pronator teres.
- b) Pronator quadratus.
- c) Lateral ½ of the flexor digitorum profundus
- d) Medial two lumbricals.

43. Ulnar nerve injury is characterized by all of the following except:

- a) Positive Froment's sign.
- b) Hyperextension of the metacarpo-phalangeal joint of the 4th and 5th fingers.
- c) Wasted interossei.
- d) None of the above.

44. Regarding peripheral nerve all are true except:

- a) Axonal sprouting begins 10 to 20 days after transaction of a peripheral nerve
- b) The fascicles in a peripheral nerve divide and recombine along their course
- c) Neurapraxia is a type of nerve injury in which the nerve is still in continuity but individual axons are disrupted.
- d) Recovery from neurotmesis requires surgical repair.

45. Which of the following is not a feature of Erb's palsy?

- a) Adduction of arm
- b) Flexion at elbow
- c) Pronation
- d) Internal rotation

46. Carpal tunnel syndrome occurs due to:

- a) Compression of radial nerve at the wrist
- b) Compression of the ulnar nerve at carpal tunnel
- c) Compression of the median nerve at carpal tunnel
- d) All of the above.

47. Injury to the radial nerve in the spinal groove causes all the following, except:

- a) Wrist drop
- b) Finger drop
- c) Loss of sensation over the 1st dorsal interosseous space
- d) Paralysis of triceps muscle.

48. False about upper brachial plexus lesion:

- a) Only affects infants after a difficult labour.
- b) Affects the fifth dorsal nerve.
- c) Causes the arm to hang by the side with the forearm pronated.

49. Which of the following signs does Horner syndrome include?

- a) Ptosis.
- b) Mydriasis.
- c) Axillary hyperhidrosis.
- d) Facial hyperhidrosis.

50. Wrist drop is the result of:

- a) Ulnar nerve injury
- b) Median nerve injury
- c) Anterior interosseous nerve injury
- d) Posterior interosseous nerve injury.

51. Which statement is untrue in trigeminal neuralgia?

- a) Is characterized by attacks of agonizing pain in the face.
- b) Involves the ophthalmic division of the trigeminal nerve in most cases.
- c) May be associated with trigger zones.
- d) Often responds to alcohol injection into the Gasserian ganglion.

52. In sciatica, the following statement are correct except that it:

- a) Is characterized by pain in the sciatic nerve distribution.
- b) Is most often due to L₅ disc protrusion.
- c) May cause limitation of straight-leg-raising.
- d) Frequently produces sciatic scoliosis.

53. Sensory loss due to median nerve injury affects:

- a) The radial side of the forearm.
- b) The whole dorsum of the hand.
- c) The whole palmar aspect of the hand.
- d) The palmar aspect of the radial side of the hand

- 54. Wrist laceration 2 cm in a patient presenting with loss of abduction and adduction of the fingers, with loss of thumb adduction, the nerve likely to be involved is:**
- a) Median nerve.
 - b) Ulnar nerve.
 - c) Posterior interosseus.
 - d) Radial nerve.
- 55. Which one of the following is present in cases of pure ulnar nerve injury?**
- a) Weak wrist flexion and weak radial deviation.
 - b) Positive pen test.
 - c) Positive card board test.
 - d) Paralysis of the flexor polices longus.
- 56. Saturday night paralysis:**
- a) Is due to injury of radial nerve
 - b) Usually resolves spontaneous
 - c) The usual site of injury is the axilla.
 - d) All of the above
- 57. The following tumors may be associated with neurofibromatosis except:**
- a) Acoustic neuroma.
 - b) Pheochromocytoma.
 - c) Neuroblastoma.
 - d) Meningioma.
- 58. Which of the following statements is untrue concerning Erb-Duchenne paralysis?**
- a) Is due to injury at the junction of C₅ and C₆ nerve roots.
 - b) Results from hyperabduction of the arm,
 - c) Causes adduction of arm with "policemen's tip" deformity.
 - d) May be associated with swelling and tenderness in the posterior triangle of the neck.
- 59. All for the following are cause of carpal tunnel syndrome, except:**
- a) Hypothyroidism
 - b) Diabetes
 - c) Gout
 - d) Rheumatoid arthritis

5- The Bones

General traumatology

- 1. A greenstick fracture:**
- a) Occurs chiefly in the elderly.
 - b) Does not occur in children.
 - c) Is a spiral fracture of tubular bone.
 - d) Is a fracture where part of the cortex is intact and part is crumpled or cracked.
- 2. As regards nonunion all are correct except:**
- a) Diagnosed if there is no healing after 6 months.
 - b) Characterized by thinning of bone ends in avascular nonunion.
 - c) Should be treated conservatively in avascular nonunion.
 - d) Is rare in fractures of highly vascularized bones, e.g. Clavicle.

3. As regard open fracture all are correct except:

- a) Gustilo et al classification is useful in determining method of fixation.
- b) Wound debridement means removal of foreign bodies and devitalized tissues.
- c) Closure of skin wounds is always indicated.
- d) Bluish non contracting non bleeding muscles should be excised

4. Delayed union:

- a) May be caused by infection.
- b) Systemic steroids may cause delayed union.
- c) Is diagnosed when there is nonunion after 1.5 times as the expected time for union.
- d) All of the above.

5. Which of the following statement is not true concerning fracture healing?

- a) Delayed union refers to fracture healing which takes longer than normal.
- b) Non-union refers to complete failure of a fracture to unite.
- c) Mal union refers to a fracture which unites in anatomical position.
- d) A pathological fracture refers to a fracture which occurs in bone weakened by pre-existing disease.

6. Which statement is not true regarding Sudek's atrophy:

- a) It occurs most common after wrist and ankle injuries.
- b) It is characterized by severe pain and stiffness.
- c) It is followed by osteoarthritis of the near joints.
- d) It may require sympathectomy.
- e) Is a type of osteodystrophy

7. The most common complication in both Pott's and Colle's fracture is:

- a) Malunion.
- b) Sudek's atrophy.
- c) Neurovascular bundle.
- d) Osteoarthritis

8. The local complications of closed fractures do not include:

- a) Malunion.
- b) Infection.
- c) Sudek's atrophy.
- d) Joint stiffness.

9. In the following types of fractures of long bones, crepitus can be elicited only in:

- a) Fissures.
- b) Spiral and oblique fractures.
- c) Subperiosteal cracks.
- d) Greenstick fractures.

10. Regarding Volkmann's ischemic contracture, which of the following statement is not correct:

- a) It is a reversible condition.
- b) It can be avoided by early fasciotomy.
- c) It leads to permanent disability to the patient
- d) It involves the flexors of the wrist and fingers.

- 11. All the following are "definitive" signs of fracture, except:**
- a) Crepitus.
 - b) Swelling with ecchymosis and tenderness.
 - c) Abnormal movements associated with severe pain.
 - d) Deformity and shortening of the limb.
- 12. All of the following are true as regard fractures in children, except:**
- a) Fractures take a longer time to heal than in adults.
 - b) Physeal injuries may cause limb deformity.
 - c) Fracture remodeling is more than in adults.
 - d) Rehabilitation is much easier than in adults
- 13. Indications for internal fixation include the following, except:**
- a) Open fractures
 - b) Vascular injuries
 - c) Polytrauma with multiple fractures
 - d) Pathological fractures
- 14. Myositis ossificans commonly occurs around:**
- a) Shoulder
 - b) Elbow
 - c) Knee
 - d) Wrist
- 15. Which of the following statements regarding compartment syndrome is false?**
- a) It is detected by a loss of distal pulses and sensation.
 - b) It produces pain out of all proportion to the injury.
 - c) It is more common in closed fractures than open ones.
 - d) It is a result of raised pressure in a compartment collapsing the veins.
 - e) It is treated by a fasciotomy
- 16. A 60-year-old man is a front seat passenger in a car crash. He is found to have fracture of three ribs on the right side, rupture of the liver, pelvic fracture, right femoral fracture, and a left tibial fracture. The patient is given broad-spectrum antibiotics, and his injuries are managed by surgery, requiring 12 units of blood. The patient improves initially, but on the third postoperative day, he develops hypoxia (PaO₂, 55 mm hg), with confusion, tachypnea, and petechiae. What is the most likely diagnosis?**
- a) Transfusion reaction
 - b) Antibiotic allergy
 - c) Fat embolism
 - d) Disseminated intravascular coagulopathy (DIC)
- 17. Nonunion in closed fractures may be due to any of the following except:**
- a) Inadequate immobilization,
 - b) Soft tissue interposition.
 - c) Impaired blood supply.
 - d) Impaction of the fragments.

Upper limb fractures

- 18. Concerning fracture of the shaft of the clavicle, it is not correct that:**
- a) It is usually due to direct trauma.
 - b) It is commonly involves the middle third.
 - c) It is often associated with overriding of fragments.
 - d) It causes dropping and deformity of shoulder.

19. The most common site of fracture clavicle is:

- a) Middle.
- b) Medial end.
- c) Between middle and lateral thirds.
- d) Between middle and medial thirds.

20. Most common complication of fracture clavicle is:

- a) Brachial plexus injury.
- b) Shoulder stiffness.
- c) Malunion.
- d) None of the above

21. In dislocation shoulder, which of the following is the commonest?

- a) Subclavicular dislocation.
- b) Subacromial dislocation.
- c) Subspinous dislocation.
- d) Subcoracoid dislocation.

22. The treatment of recurrent shoulder dislocation is:

- a) Kocher's method.
- b) Hippocratic method.
- c) Bankart's operation.
- d) Arthrodesis.

23. All of the following are common complications of anterior shoulder dislocation, except:

- a) Rotator cuff tears.
- b) Radial nerve injury.
- c) Brachial plexus injury.
- d) Recurrent dislocation.

24. Which of the following statement about anterior dislocation of the shoulder joint is not true:

- a) The shoulder loses its round contour and become flattened.
- b) All movements of the shoulder are limited and painful.
- c) The anterior and posterior folds of the axilla are elevated.
- d) The hand cannot be elevated on the opposite shoulder.
- e) The elbow is abducted from the sides.

25. Regarding fracture surgical neck of the humerus, all is true, except:

- a) May be due to a fall on outstretched hand.
- b) In un-impacted fracture, upper fragment is adducted and lower fragment is abducted.
- c) Results in injury of axillary nerve.
- d) Treatment is by closed reduction

26. Radial nerve injury is most often associated with:

- a) Fracture of the surgical neck of the humerus.
- b) Spiral fracture of the humerus.
- c) Supracondylar fracture of the humerus.
- d) Fracture of the lateral condyle of the humerus.

27. Closed fracture of the shaft of the humerus is best treated by:

- a) Closed reduction and shoulder spica.
- b) Plate and screws fixation.
- c) U-shaped plaster cast and arm to neck sling.
- d) Skeletal traction.

- 28. A 7-year-old boy falls off his bicycle, landing on the left elbow. He presents to the emergency room with massive, tense swelling of the elbow with painful and restricted elbow motion. X-rays show a displaced fracture of the distal end of the humerus. Which of the following is the most serious complication of this fracture?**
- a) Nonunion of fracture fragments with deformity
 - b) Disruption of the growth plate at the distal end of the humerus
 - c) Forearm compartment syndrome (Volkmann's ischemia)
 - d) Ankylosis of the elbow joint
- 29. The following fractures are more common in postmenopausal females except:**
- a) Fracture surgical neck of humerus.
 - b) Fracture neck femur.
 - c) Supracondylar fracture humerus.
 - d) Colle's fracture.
- 30. The following are presentation of supracondylar fracture except:**
- a) Disturbance of supracondylar ridge.
 - b) Disturbance of equidistant triangle between medial and lateral epicondyles and condylar process of olecranon.
 - c) Partial limitation around elbow.
 - d) Injury of neurovascular bundle.
- 31. The most vulnerable structure in supracondylar fracture of the humerus is the:**
- a) Median cubital vein.
 - b) Brachial artery.
 - c) Median nerve.
 - d) Ulnar nerve.
- 32. Vascular injury is common in association with fracture:**
- a) Neck humerus.
 - b) Both bones upper limb.
 - c) Pelvis.
 - d) Supracondylar femur
- 33. Colle's fracture is:**
- a) Extra articular fracture of distal ulna.
 - b) Intra articular fracture of distal ulna.
 - c) Extra articular fracture of distal radius.
 - d) Intra articular fracture of distal radius.
- 34. All of the following are possible complications of Colle's fracture, except:**
- a) Sudek's atrophy.
 - b) Radial artery injury.
 - c) Carpal tunnel syndrome.
 - d) Myositis ossificans.
- 35. A 72-year-old woman fell on outstretched arm. This was followed by pain and by swelling above the wrist. Plain X-ray showed fracture of the distal radius. Regarding this fracture, all the following statements are true, except:**
- a) It is called Colle's fracture.
 - b) There is anterior displacement and angulation of distal fragment.
 - c) There is radial displacement and angulation of distal fragment.
 - d) Osteoporosis is the predisposing factor.

- 36. A 32-year-old woman patient attended to the outpatient's clinic. She has weakness in her left arm following a car accident 1 month ago when she fractured her left arm. On examination there is weakness of extension of the fingers and wrist on the left side. However, sensation is maintained in all distributions and there is no wrist drop. Which one of the following fractures classically associated with nerve injury is the cause of this palsy?**
- a) Fracture of head of radius
 - b) Fracture of shaft of humerus
 - c) Medial epicondyle of humerus
 - d) Fracture of shaft of ulna
- 37. As regards fracture of scaphoid bone all are correct, except:**
- a) It is the most common carpal bone fracture.
 - b) It may not affect function and may not appear in early X-ray film.
 - c) Avascular necrosis doesn't affect function.
 - d) It is an intra-articular fracture.
- 38. The most consistent sign of fracture of scaphoid bone is:**
- a) Wrist pain during attempted push ups
 - b) Diffuse swelling on the dorsum of wrist
 - c) Localized tenderness in the anatomic snuffbox
 - d) Wrist popping on movement
- 39. Concerning extension Monteggia's fracture-dislocation, it is not true that:**
- a) It is usually due to a severe blow on the back of the forearm.
 - b) It can be treated by manipulative reduction in children.
 - c) It always requires surgical treatment in adults.
 - d) It is rarely associated with complications

Lower limb fractures

- 40. A man with a traumatic pelvic ring disruption, fresh blood comes through urethral meatus the best diagnostic test is:**
- a) Excretory IVU.
 - b) Urine analysis.
 - c) Urethral catheterization.
 - d) Retrograde urethrogram.
- 41. The commonest complication of fracture pelvis is:**
- a) Injury to penile urethra.
 - b) Injury to bulbo-membranous urethra.
 - c) Injury to the rectum.
 - d) Injury to the bladder
- 42. A 40-year-old man was injured in a car accident is brought into A&E and was hit by a fracture pelvis. Which of the following is most indicative of a urethral injury?**
- a) Oliguria
 - b) Scrotal ecchymosis
 - c) High-riding prostate on rectal examination
 - d) Intravenous pyelography (IVP) showing dye extravasation in the pelvis

43. The following fractures affect stability of hip joint, except:

- a) Butterfly fracture.
- b) Fracture of sacrum.
- c) Malgaigne's fracture.
- d) Open book fracture

44. The following are complications of fracture hip, except:

- a) Sciatic nerve injury.
- b) Obstetrical difficulties.
- c) Hemorrhagic shock.
- d) Femoral nerve injury.

45. Open book fracture is due to:

- a) Separation of sacroiliac joints on both sides.
- b) Separation of sacroiliac joint on one side with double pelvis fracture.
- c) Wide separation of symphysis pubis with little separation of sacroiliac joint on one side.
- d) Total pelvic disruption.

46. Regarding joint dislocations, all of the following statements are true, except:

- a) The most common joint to dislocate is the shoulder.
- b) Hip dislocation is usually anterior.
- c) Shoulder dislocation is usually anterior.
- d) There is complete loss of joint movement.

47. The most common type of traumatic hip dislocation:

- a) Anterior.
- b) Inferior
- c) Posterior.
- d) Central

48. The earliest radiological sign in congenital hip dislocation (developmental dysplasia of the hip, DDH) is:

- a) The small shallow acetabulum.
- b) Distortion of shenton's line.
- c) The hypoplastic femoral head.
- d) The shortened anteverted femoral neck.

49. Posterior hip dislocation includes the following complications, except:

- a) Sciatic nerve injury.
- b) Irreducibility.
- c) Obturator nerve injury.
- d) Complications of prolonged recumbency.

50. All of the following are methods for reduction of hip dislocation, except:

- a) Open reduction if associated fracture acetabulum preventing closed reduction.
- b) Kocher's method.
- c) Allis method.
- d) Stimson method.

51. Position of lower limb in posterior dislocation is:

- a) Flexed abducted with shortening.
- b) Flexed adducted with shortening.
- c) Flexed abducted with lengthening.
- d) Flexed adducted with lengthening.

52. Positive obturator sign:

- a) Injury of obturator nerve.
- b) Disruption of obturator ring.
- c) Medial displacement of radiographic obturator line by fat over obturator internus.
- d) Tear of obturator externus.

53. Arthroplasty defined as:

- a) Correction of angulation of long bones
- b) Open reduction and internal fixation of intra-articular fracture
- c) Open reduction and internal fixation of long bone fracture
- d) Replacement of the articular surface of a long bone by synthetic material

54. The most important complication of fracture neck femur is:

- a) Septic shock.
- b) Ischemic necrosis (AVN)
- c) Fat embolism.
- d) Bed sores.

55. Mortality rate in the 1st 3 months in fracture neck femur is:

- a) 5%.
- b) 10%.
- c) 20%.
- d) 35%

56. Complications of prolonged recumbency in bed is common for fracture:

- a) Neck femur.
- b) Supracondylar femur.
- c) Shaft tibia.
- d) Pott's fracture

57. A 64-year-old female patient is admitted after fall at home, X-ray showed non displaced intracapsular neck of femur, the appropriate management is:

- a) Total hip replacement
- b) Cannulated screw fixation
- c) Hemiarthroplasty
- d) Dynamic hip screw fixation.

58. The usual position of unimpacted fracture neck femur is:

- a) External rotation and adduction.
- b) Internal rotation and adduction.
- c) External rotation and abduction.
- d) Internal rotation and adduction

59. The more possibly injured nerve in fracture neck femur is:

- a) Femoral nerve.
- b) Obturator nerve.
- c) Sciatic nerve.
- d) None of the above

60. In extra capsular fracture neck femur, the method used for fixation is:

- a) External fixation.
- b) Total hip replacement.
- c) Dynamic hip screw (DHS)
- d) Austin Moore prosthesis

61. All of the following complications of fractures are true, except:

- a) Fracture of the shaft of humerus can cause wrist drop.
- b) Extra-capsular fracture of neck of femur can cause necrosis of its head.
- c) Fracture of the medial epicondyle of humerus can cause claw hand deformity.
- d) Fracture of the surgical neck of humerus can cause atrophy of deltoid muscle.

62. A 35-year-old male was hit by a car and his left femur injured. X-rays revealed a comminuted fracture of the mid shaft of the left femur. The following statements are correct, except:

- a) Ideal treatment is internal fixation by closed interlocking intramedullary nail.
- b) Patient should be evaluated to exclude associated hip/pelvic injury.
- c) Patient should be evaluated to exclude associated visceral injury.
- d) Ideal treatment is fixation in hip spica cast till healing.

63. A transverse fracture of the shaft of the femur in 20 years male is best treated by:

- a) Skin traction.
- b) Skeletal traction
- c) Intra-medullary nail
- d) Plate and screws fixation

64. Regarding treatment of fracture shaft of femur, all of the following are true, except:

- a) Children up to 5 years by Gallow's traction
- b) In adolescents by skin traction on Thomas ' splint
- c) Transverse fracture in adults by intramedullary nail
- d) Compound fracture in adults by interlocking nails

65. As regards the treatment of fracture shaft femur all of the following are correct, except:

- a) Newborn with mid shaft fracture (Crede's method).
- b) Comminuted supracondylar (external fixation).
- c) Subtrochanteric fracture (condylar plate or interlocking nail).
- d) Adult (open reduction and internal fixation ORIF).

66. A -30-year old male patient received a direct blow to the knee during a fight. He was presented to the A&E with loss of active extension of the knee. X-ray was done showed a transverse fracture of the patella. The management is:

- a) Above knee plaster cast.
- b) Internal fixation.
- c) Patellectomy.
- d) Rest.

67. A -25-year-old man experienced pain then his right knee twist while skiing, and fell to the ground. His knee is swollen. He cannot bear full weight or fully extend or bend his leg. There is tenderness over the medial joint line. Emergency room X-ray findings were normal, and the range of motion (rom), although restricted, is stable to varus and valgus stress. Straight-leg raise is unrestricted. Which is the most likely type of injury?

- a) Tuberosity
- b) Medial meniscus
- c) Anterior cruciate ligament
- d) Transverse genicular ligament

68. A -35-year old female patient presented to the A&E after a road traffic accident with a compound fracture of both tibia and fibula of the right left leg, the leg is tense and tender with no felt pedal pulsations. The first thing to do for this patient is:

- a) Fasciotomy.
- b) Internal fixation.
- c) External fixation.
- d) Exploration of the leg vessels

69. A 15-year-old athlete girl with knee pain and severe tenderness at the tibial tubercle most likely has:

- a) Tibial torsion
- b) Osgood-schlatter disease
- c) Legg-calve-perthes disease
- d) Sipped capital femoral epiphysis (SCFE)

70. The recommended treatment for a compound fracture of the tibia is:

- a) Internal fixation by a plate and screws.
- b) External skeletal fixation.
- c) Intra-medullary nail fixation.
- d) Skeletal traction.

71. A -10-year old boy came to A&E involved in a road traffic accident. His X-ray showed fracture neck fibula, on examination he was unable to dorsi-flex the ankle, the nerve involved is:

- a) Anterior tibial.
- b) Popliteal nerve.
- c) Lateral popliteal nerve.
- d) Superficial peroneal nerve.

72. 3rd degree Pott's differs from 2nd degree in:

- a) Site of displacement of talus.
- b) Fracture of medial malleolus.
- c) Fracture of posterior malleolus.
- d) A and c.

73. A march fracture most frequently results from:

- a) Direct trauma.
- b) Jumping from a height.
- c) Metatarsal fracture from prolonged walking.
- d) Use of high - heeled shoes.

74. Fracture of calcaneus bone is usually associated with:

- a) Fracture or dislocation of the hip.
- b) Fracture of femur.
- c) Tibial fracture.
- d) Spine fracture.

Bone inflammation

75. The following are predisposing factors for acute hematogenous osteomyelitis, except:

- a) Young age.
- b) Female sex.
- c) Bad hygiene.
- d) Epiphyseal trauma

76. Regarding osteomyelitis all the followings are true, except:

- a) Most commonly due to staph aureus infection
- b) Infection usually affect the metaphysis of long bones
- c) Dead bone within the medullary canal known as involucrum
- d) May need surgical drainage if there is no response to antibiotic after 48 hour

77. Surgical treatment of acute hematogenous osteomyelitis:

- a) Indicated if there is no response to antibiotic for 1 week.
- b) Better as it drains pus.
- c) Of no value.
- d) Indicated in all cases.

78. Differential diagnosis of acute hematogenous osteomyelitis includes all of the following, except:

- a) Ewing's sarcoma.
- b) Osteoclastoma.
- c) Septic arthritis.
- d) Cellulitis.

79. The following tumor must be differentiated from acute hematogenous osteomyelitis:

- a) Osteoclastoma.
- b) Osteosarcoma.
- c) Ewing's sarcoma.
- d) Multiple myeloma.

80. As regards complications of acute hematogenous osteomyelitis all of the following are correct, except:

- a) It can always result in suppurative arthritis.
- b) Chronic osteomyelitis is a common complication that can lead to handicapping.
- c) Pathological fracture may occur.
- d) Disturbed bone growth may lead to limping

81. All of the following are radiographic findings in chronic hematogenous osteomyelitis, except:

- a) Periosteal elevation.
- b) Sequestrum (hyper dense lesion).
- c) Onion peel appearance.
- d) Involucrum.

82. The sequestrum in X-ray appears:

- a) Dense.
- b) Light.
- c) Isodense as surrounding bone.
- d) None of the above

83. About Brodie's abscess (sub-acute osteomyelitis):

- a) It is a chronic abscess.
- b) Presented by intermittent pain after effort.
- c) Apple jelly pus is often drained and is sterile.
- d) All of the above

84. Regarding tuberculosis of the spine all are true, except:

- a) It is secondary tuberculosis.
- b) Disease starts in anterior vertebral margin.
- c) Commonly affects cervical spine.
- d) It may be complicated by paraplegia

85. The earliest sign of TB hip in X-ray is:

- a) Narrow joint space.
- b) Irregular moth-eaten femoral head.
- c) Periarticular osteoporosis.
- d) Dislocation

86. In Pott's spine, the disease starts in the:

- a) Intervertebral disk.
- b) Anterior vertebral margin.
- c) Posterior vertebral margin.
- d) Paravertebral soft tissue

87. The radiological signs of Pott's disease include all of the following, except:

- a) Intact intervertebral discs.
- b) Wedging of vertebral bodies.
- c) Decalcification and rarefaction of affected segment.
- d) Soft tissue shadow due to cold-abscess formation.

88. Pott's disease of the spine, all the following statements are true, except:

- a) It is a disease of childhood.
- b) Treatment is mainly surgical.
- c) This is tuberculous osteomyelitis of the spine.
- d) A cold abscess may show as a swelling in the thigh.

Bone tumors

89. Bone cysts are common in:

- a) Femur
- b) Tibia.
- c) Humerus.
- d) Radius

90. Osteoid osteoma originates from:

- a) Periosteum.
- b) Cortex.
- c) Medullary cavity.
- d) All of the above.

91. A 19-year-old man complained a hard lump above his left knee. He initially noticed the lump 3 years ago but presents now after his wife persuaded him to find out what it is. He does not complain of any associated symptoms. Radiographic investigation demonstrates a knob of bone on the surface of the distal femur, which projects away from the knee joint the most likely diagnosis is:

- a) Osteoma
- b) Exostosis
- c) Enchondroma
- d) Osteosarcoma

92. All of the following statements about osteochondroma (exostosis) are true except:

- a) It is rarely affects flat bones.
- b) It can lead to mechanical block of the near joint.
- c) It affects the diaphysis of long bones.
- d) It may be associated by dwarfism.

93. Regarding enchondroma, all of the following are true, except:

- a) It is a benign osteogenic bone tumor.
- b) It may undergo malignant transformation
- c) It may cause a pathologic fracture.
- d) Calcification are characteristic X-ray findings

94. Concerning osteoclastoma, all of the following statements are correct, except:

- a) It usually occurs between the ages of 15 and 40 years.
- b) It always arises in the metaphyseal region of cartilaginous bones.
- c) It consists of large giant cells in a very vascular stroma of spindle cells.
- d) It presents as a painless globular swelling with well-defined edge.

95. The treatment of osteoclastoma includes all of the following, except:

- a) Curettage of tumor tissue and packing cavity with bone chips.
- b) Excision with safety margin of bone.
- c) Amputation.
- d) Chemotherapy.

96. The main presentation of osteosarcoma is:

- a) Pain
- b) Fever
- c) Swelling
- d) Hemoptysis

97. All of the following are true about bone tumors, except:

- a) Patients with a past history of malignancy who present with backache have metastases until proved otherwise.
- b) The extent of metastases can be best assessed on a bone scan.
- c) All patients with suspected bone tumors should have plain X-rays.
- d) Pathological fractures through metastases should be fixed but patients should not be given radiotherapy as this will prevent healing

98. Ewing's sarcoma is characterized by all of the following, except:

- a) Is a common tumor of children.
- b) Always arises in the metaphysis of a long bone.
- c) Presents as a fusiform swelling with inflammatory changes in the overlying soft tissues.
- d) May be associated with leucocytosis.

99. A 13-year-old boy presents with localized pain, fever and weight loss. On examination, a soft tissue mass is palpable over the mid-thigh region, X-ray shows a large soft tissue mass with concentric layers of new bone formation, the diagnosis mostly is:

- a) Osteosarcoma.
- b) Osteoclastoma.
- c) Ewing's sarcoma.
- d) Leiomyosarcoma

100. Which of the following is the most common malignant lesion of the bone?

- a) Chondrosarcoma.
- b) Fibrosarcoma.
- c) Ewing's sarcoma.
- d) Osteosarcoma

101. Sun ray appearance of osteosarcoma is because of:

- a) Periosteal reaction.
- b) Osteonecrosis.
- c) Calcification along vessels.
- d) None of the above

102. Which of the following tumors arises from the metaphysis of long bones?

- a) Osteosarcoma.
- b) Giant cell tumor.
- c) Secondaries.
- d) Chondrosarcoma

103. Chondrosarcoma is:

- a) Most commonly affecting the flat bones.
- b) Radio sensitive.
- c) Commonly spread to the regional draining lymph nodes.
- d) Mostly occurring in children.

104. The most common malignant bone tumors are:

- a) Osteosarcoma.
- b) Ewing's sarcoma.
- c) Osteoclastoma.
- d) Secondaries

105. Which of the following tumors is locally malignant and more common in females?

- a) Osteoclastoma.
- b) Osteosarcoma.
- c) Ewing's sarcoma.
- d) Multiple myeloma.

106. As regards skeletal metastasis from cancer prostate all are correct except:

- a) It may be osteogenic.
- b) It cannot lead to pathological fractures.
- c) It is the most common primary source for bone metastasis in males.
- d) It leads to marked elevation of acid phosphatase

107. About bone metastases, all the following statements are true, except:

- a) They can cause spinal cord compression.
- b) They can cause hypercalcemia.
- c) Alkaline phosphatase is elevated.
- d) Whole body scan for deposits is done by MRI.

Deformities

108. All of the following statements about cubitus valgus deformity are correct, except:

- a) It may be due to malunited supracondylar fracture of the humerus or non-united fracture of the lateral condyle.
- b) The deformity is most obvious when the elbow is fully flexed.
- c) It predisposes to delayed ulnar neuritis.
- d) Treatment by supracondylar osteotomy is necessary only when the deformity is severe.

109. All the following regarding club foot are false except:

- a) It is an adduction deformity of the forefoot.
- b) It is congenital deformity of the hip joint.
- c) The first line of treatment is surgical correction.
- d) It is always a bilateral condition.
- e) It corrects spontaneously by walking age.

110. Delayed ulnar neuritis is due to:

- a) Leprosy
- b) T.B
- c) Cubitus varus deformity
- d) Cubitus valgus deformity

111. Looser's zones (also known as pseudo fractures) are a radiographic characterizing which one of the following bone diseases?

- a) Osteomalacia
- b) Paget's disease
- c) Osteoporosis
- d) Osteomyelitis

Miscellaneous

112. First bone to ossify in fetal life is:

- a) Femur. b) Clavicle. c) Tibia. d) Sternum.

113. The ideal treatment of anterior elbow dislocation is:

- a) Closed reduction. c) Skin traction.
b) Open reduction and internal d) None of the above.
fixation (ORIF).

114. For prevention of Sudek's atrophy patients with Colle's fracture should start physiotherapy:

- a) From the first day. c) After removal of cast.
b) After one week. d) After 9 months.

115. A fracture to the ulna with associated dislocation of the radial head is called:

- a) Morgagni's fracture. c) Monteggia's fracture.
b) Galeazzi's fracture. d) Colles' fracture

116. Bennett's fracture is:

- a) Reversed Colle's' fracture
b) Fracture of the scaphoid bone in the wrist
c) Fracture of the radial styloid (chauffeur's fracture)
d) Fracture dislocation of the first metacarpal.

117. Malgaigne's fracture is:

- a) Unilateral fracture of ischial ramus.
b) Avulsion fracture of anterior superior ischial spine (ASIS).
c) Double pelvis fracture on one side with upward dislocation.
d) None of the above.

118. About fracture neck femur:

- a) Intracapsular fracture has better prognosis than extracapsular.
b) Pertrochanteric fracture mean fracture of both greater and lesser trochanters.
c) Impacted fracture carries greater risk of avascular necrosis of head.
d) None of the above.

119. A 30-year-old woman has posterior pelvic fracture, tachycardia and hypotension, responding poorly to volume replacement. US revealed free intraperitoneal bleeding and a pelvic hematoma. The appropriate management is:

- a) Application of medical antishock measures.
b) Laparotomy and ligation of iliac arteries.
c) External fixation to stabilize the pelvis.
d) Laparotomy and pelvic packing.

- 120. As regards acute pyogenic arthritis all are correct, except:**
- a) Differentiated from acute hematogenous osteomyelitis by loss of passive movement.
 - b) Treated primarily by surgical drainage.
 - c) Usually complicate acute hematogenous osteomyelitis.
 - d) Caused usually by staph aureus transmitted through blood stream.
- 121. All of the following statements about multiple myeloma are true, except:**
- a) It is characterized by the presence of Bence jones proteins in urine.
 - b) It is a primary malignant tumor of bone marrow.
 - c) It is rarely associated with anemia.
 - d) It may cause paraplegia.
- 122. Which cell is primarily responsible for production of alkaline phosphatase:**
- a) Fibroblast.
 - b) Osteoblast.
 - c) Hepatocyte.
 - d) Osteoclast.
- 123. A -7-year-old child presented with intermittent limping and pain in the right hip and knee. On examination, flexion and extension movements were free and there was no tenderness and no muscle wasting. X-ray examination confirmed the diagnosis of:**
- a) Early tuberculous arthritis of the hip joint.
 - b) Slipped upper femoral epiphysis.
 - c) Traumatic arthritis.
 - d) Perthes' disease.
- 124. A 60-year-old male with 3 months' history of severe back ache, anemia and loss of weight, developed severe girdle pain with weakness of the lower limbs. Examination revealed low grade fever with marked tenderness over the spine, ribs, sternum, skull and pelvic bones. X-ray examination revealed multiple punched out defects without any new bone formation. The most probable diagnosis is:**
- a) Bone metastasis from an occult primary.
 - b) Hand Schüller-Christian's disease.
 - c) Multiple myeloma.
 - d) Paget's disease.
- 125. Paralytic talipes is differentiated from congenital talipes by the following features, except:**
- a) The deformity appears later after birth.
 - b) The limb is atrophied, cyanosed and cold.
 - c) The muscles are wasted and flabby.
 - d) Usually both sides are affected.
- 126. All of the following are true about Perthes' disease, except:**
- a) It is a spontaneous avascular necrosis of the hip.
 - b) It is most common in boys around puberty.
 - c) The condition usually settles spontaneously.
 - d) A similar problem can occur in children with sickle cell disease.

127. Regarding Perthes' disease:

- a) Is more common in girls
- b) Usually presents after 10 years of age
- c) Is due to avascular necrosis of the distal femoral epiphysis
- d) The capital femoral epiphysis may be smaller, denser and flatter in X-ray.

128. In Colle's fracture, all are true except:

- a) It is wise to screen for osteoporosis.
- b) Non-union is a common complication.
- c) It is caused usually by a fall on the outstretched arm.
- d) The fracture may be complicated by carpal tunnel syndrome.

129. In an adult patient with fracture shaft of femur:

- a) Up to two liters of blood can be lost in the thigh without obvious swelling or bruising.
- b) Fat embolism can occur as early as few hours after injury.
- c) Distal absent pulses should be treated by immediate heparinization.
- d) Risk of deep venous thrombosis in the postoperative period is excluded if internal fixation was done properly.

130. Regarding malignant bone tumors all are true, except:

- a) Secondaries are the most common bone lesions.
- b) Secondaries are more common in hand and foot than in pelvic and shoulder girdles.
- c) Secondaries are more commonly osteolytic than osteosclerotic in nature.
- d) The peak age of occurrence of multiple myeloma is 50-60 yrs.
- e) Ewing's sarcoma is both radio and chemo sensitive.

131. The most common benign tumor of the rib is:

- a) Osteochondroma.
- b) Fibrous dysplasia.
- c) Chondroma.
- d) Eosinophilic granuloma

132. Regarding TB of hip joint all are true, except:

- a) Hip is second common site of affection by tuberculosis after spine.
- b) Tuberculous lesions may start in the acetabulum or metaphysis (Babcock's triangle).
- c) Limping is the earliest and most common symptom of tuberculosis of the hip.
- d) It heals by bony ankylosis.

133. After a breech delivery of a boy, the attending nurse noted that there is deformity of the right thigh, upon which plain X-ray was done and fracture femur was diagnosed. Which of the following will be used in the management?

- a) Thomas' splint
- b) Open reduction.
- c) Crede's method.
- d) Gallow's traction.

134. Regarding multiple myeloma all are true, except:

- a) Is a tumor made up of malignant monoclonal plasma cells.
- b) Usually affects patients > 40 years old.
- c) Patients often present with malaise, bone pain, or pathologic fractures.
- d) The classic radiographic appearance is multiple sclerotic lesions.

135. Ewing's sarcoma arises from which of the following:

- a) Squamous cells
- b) Mesothelial cells
- c) Endothelial cells
- d) None of the above

136. The treatment of clubfoot should best begin at:

- a) Day of birth
- b) One month
- c) Three month of age
- d) Sixth month of age

137. Regarding multiple myeloma all are true except:

- a) Usually affects old males
- b) Related to plasma cells
- c) Presented with pallor, pathological fractures and paraplegia
- d) X-ray shows osteogenic areas of skull and ribs

138. In Perthes' disease the movements restricted are:

- a) Abduction and external rotation
- b) Abduction and internal rotation
- c) Adduction and external rotation
- d) All of the above

139. True regarding Sudek's atrophy of hand:

- a) Hands are painful and swollen.
- b) Osteoporosis of carpals and metacarpals.
- c) There is decrease in blood supply to para-articular area.
- d) All of the above

140. Visceral injury may be commonly associated with pelvic fracture is:

- a) Prostatic urethra
- b) Urinary bladder
- c) Ureter
- d) Uterus

141. The most common site of spine injury after trauma is:

- a) Lumbosacral spine.
- b) Cervical spine.
- c) Dorsal spine.
- d) Dorsolumbar spine.

142. An elderly anemic patient complains of back pain, numerous punched out radiolucencies on skull radiograph, the most likely diagnosis to be investigated is:

- a) Malignant lymphoma
- b) Ewing's sarcoma
- c) Thalathemia
- d) Multiple myeloma

143. A bone malignancy characterized by appearance of bence jones protein in urine:

- a) Osteosarcoma
- b) Chondrosarcoma
- c) Giant cell tumor
- d) Multiple myeloma

144. Which of the following statements regarding the holding of fractures is true?

- a) Treating a fracture in traction leads to delayed healing.
- b) Plates and screws do not allow absolute stability to be obtained.
- c) Intramedullary nails should always be used in growing bones.
- d) External fixators are especially useful where there is loss of soft tissue.

145. Lateral stability of the ankle is provided by:

- a) The tarsal navicular
- b) The deltoid ligament
- c) The medial meniscus
- d) The fibula

146. The most appropriate treatment for posterior dislocation of the sternoclavicular joint is:

- a) Analgesics only
- b) Ipsilateral sling to immobilize the shoulder
- c) Closed reduction
- d) Open reduction and internal fixation

147. Which of the following is most diagnostic for a compartment syndrome?

- a) Compartment pressure > 25 mmHg
- b) Compartment pressure 20 mmHg, higher than diastolic pressure
- c) Tense extremity on palpation
- d) Disproportionate pain and painful passive stretch of the compartment muscles

148. Which of the following is the preferred treatment for a Monteggia's fracture dislocation of the proximal forearm?

- a) Closed reduction of both ulna and radius
- b) Closed reduction of ulna, open reduction and fixation of radius
- c) Open reduction and fixation of ulna, closed reduction of radius
- d) Open reduction and fixation of the ulna and radius

149. A 4-year-old presents with a fracture of mid shaft femur. Which of the following is the best treatment for this child?

- a) Traction and bed rest
- b) Closed reduction and application of a spica cast
- c) Open reduction and internal fixation (plate)
- d) Open reduction and intramedullary fixation

150. Which of the following is the most common cervical fracture seen after a driving accident?

- a) Dens (odontoid) fracture (C₁)
- b) Burst fracture (C₃₋₆)
- c) Hangman fracture (C₂)
- d) Compression fracture (C₃₋₇)

- 151. A newborn boy was examined to exclude congenital dislocation of the hip (CDH). Which of the following tests is relative to the management of CDH?**
- a) The diagnosis should be established between 2 and 4 years of age.
 - b) Abduction of the flexed hip causes a click (Ortolani's sign).
 - c) Abduction of the hip is not limited.
 - d) Apparent lengthening of the thigh with the hip and knee flexed may be seen.
- 152. On assessment of a patient in the outpatients department you identify that they are Trendelenburg's test positive. This indicates a possible palsy of which nerve?**
- a) Femoral
 - b) Obturator
 - c) Superior gluteal
 - d) Inferior gluteal
- 153. The most common cause of an acquired valgus deformity of the knee joint is:**
- a) Rheumatoid arthritis
 - b) Osteoporosis
 - c) Osteoarthritis
 - d) Osteomalacia
- 154. Dupuytren's contracture is caused by a thickening of the palmar fascia. It is associated with the following conditions, except:**
- a) Alcoholic cirrhosis
 - b) Peyronie's disease
 - c) Epilepsy
 - d) Syphilis
- 155. Boxer's fracture is a fracture of one the following bone:**
- a) Hamate
 - b) The fifth metacarpal
 - c) The fifth proximal phalanx
 - d) Styloid process
- 156. A patient presents with symptoms suggestive of adhesive capsulitis (frozen shoulder). Which of the following systemic conditions is most commonly associated with this?**
- a) Fibrotic lung disease
 - b) Systemic lupus erythematosus
 - c) Osteoarthritis
 - d) Diabetes
- 157. Which one of the following statements regarding Paget's disease of bone is not correct?**
- a) It most commonly occurs in the pelvis
 - b) It more commonly affects a single bone
 - c) Characteristic biochemical findings include raised serum alkaline phosphatase, normal calcium and normal phosphate
 - d) 1 % of cases will develop osteosarcoma
- 158. The least possible complication of an unstable fracture of the pelvis is?**
- a) Urinary bladder injury.
 - b) Injury of the urethra.
 - c) Malunion that causes future obstruction of the birth canal.
 - d) Femoral nerve injury.

159. A 10-year-old boy is referred to the orthopedic team with an acutely painful arm. On examination there is a notable swelling of the limb above and around the elbow joint. There is no reduced range in passive movement of the joint but the boy is holding his arm very still and will not actively move the limb. His hemoglobin is 8.3 g/dl, white cell count $10.5 \times 10^9/l$, C-reactive protein 12 mg/l. The child is afebrile with a blood pressure of 110/75 mmHg, and a pulse rate of 85 beats/min.

- a) Septic arthritis
- b) Osteomyelitis
- c) Bony infarct
- d) Juvenile arthritis

160. Regarding multiple myeloma, all statements are true, except:

- a) Blood picture may show plasma cell leukemia
- b) They arise from the plasma cells.
- c) The distal end of the femur and the proximal end of the tibia is a common site.
- d) Bence Jones protein coagulates at 55°C and disappears at 85°C

161. Regarding the site of bone tumors, all statements are true, except:

- a) Metaphysis, secondaries.
- b) Chondrosarcoma, scapula.
- c) Osteoblastoma, vertebrae
- d) Diaphysis, Ewing's sarcoma

162. Osteoclastoma is characterized by all of the following, except:

- a) The usual age of presentation is 20-30 years.
- b) The lesion is metaphyseal.
- c) The commonest site of the lesion is around the knee.
- d) Plain X-ray reveals a soap bubble appearance.

163. The recommended treatment for a closed fracture mid shaft femur in an adult is:

- a) Reduction and fixation in a plaster cast.
- b) External skeletal fixator.
- c) Intra-medullary nail.
- d) Thomas splint.

164. All of the following are correct about giant cell tumor of the bone except:

- a) It causes expansion of the affected area.
- b) It usually arises in the diaphysis of the affected bone.
- c) The most commonly affected bones are around the knee.
- d) Characterized by the radiological appearance of medullary plug.

165. The local complication of closed fractures does not include:

- a) Malunion.
- b) Nonunion
- c) Osteomyelitis.
- d) Joint stiffness.

166. Which of the following lesions does not commonly cause metastasis in the bones?

- a) Renal cell carcinoma.
- b) Prostatic cancer.
- c) Follicular carcinoma of the thyroid.
- d) Rectal carcinoma.

167. Regarding TB of the dorsal spine:

- a) Usually due to direct spread from a nearby focus.
- b) Lumbar lordosis is a common feature.
- c) The intervertebral discs commonly spared.
- d) Can lead to the formation of a psoas abscess.

168. Which of the following fractures are more common to be impacted?

- a) Neck femur fracture.
- b) Humeral supracondylar fracture.
- c) Colle's fracture.
- d) Clavicle fracture.

169. Which of the following are factors affecting bone healing?

- a) Type of bone.
- b) Intraarticular fracture.
- c) Surgical intervention.
- d) All of the above

170. Malunion may result in the following except:

- a) Angulation.
- b) Rotation.
- c) Elongation.
- d) Shortening

171. O.R.I.F is indicated in the following except:

- a) Unstable fractures.
- b) Open fracture.
- c) With neurovascular injuries (when exploration is needed).
- d) Pathological fractures.

172. All of the followings are complications of fracture except:

- a) Neurogenic shock.
- b) Stroke.
- c) Fat embolism.
- d) Renal failure.

173. All of the following types of shock may complicate femoral fracture except:

- a) Hypovolemic.
- b) Neurogenic.
- c) Cardiogenic.
- d) Septic

174. Immobilization of fractures of long bones should include:

- a) Fractured bone only
- b) Proximal joint
- c) Both proximal and distal joints
- d) Distal joint

175. The most common type of shoulder dislocation is:

- a) Posterior.
- b) Anterior.
- c) Inferior.
- d) Superior.

176. The commonest complication of anterior shoulder dislocation is:

- a) Axillary artery injury.
- b) Rotator cuff tear.
- c) Recurrent dislocation.
- d) None of the above.

177. Anterior elbow dislocation is usually associated with fracture of:

- a) Coronoid process
- b) Olecranon process
- c) Head of radius
- d) None of the above

178. All of the following are common complications of anterior shoulder dislocation except:

- a) Rotator cuff tear.
- b) Radial nerve injury.
- c) Axillary nerve injury.
- d) Brachial plexus injury.

179. Most important complication, in fracture both bones of forearm is:

- a) Median nerve injury.
- b) Madlung deformity.
- c) Compartmental syndrome.
- d) Carpal tunnel syndrome.

180. Most common fracture of upper limb is:

- a) Supracondylar fracture.
- b) Shaft humerus fracture.
- c) Clavicle fracture.
- d) Colle's fracture

181. Most common joint to be dislocated is:

- a) Hip.
- b) Knee.
- c) Elbow.
- d) Shoulder.

182. Recurrent dislocation is common complication in:

- a) Hip dislocation.
- b) Anterior shoulder dislocation.
- c) Posterior shoulder dislocation.
- d) Elbow dislocation

183. The following are deformities that can result from colle's fracture except:

- a) Madlung deformity.
- b) Dinner fork deformity.
- c) Ape hand deformity.
- d) Wrist drop

184. The most common hip dislocation is:

- a) Congenital dislocation.
- b) Traumatic dislocation.
- c) Inflammatory dislocation.
- d) Paralytic dislocation.

185. Lengthening is a possible sign of:

- a) Fracture neck femur.
- b) Fracture hip bone.
- c) Anterior hip dislocation.
- d) Posterior hip dislocation.

186. The most important predisposing factor in fracture neck femur is:

- a) Smoking.
- b) Dm.
- c) Postmenopausal osteoporosis.
- d) Poliomyelitis.

187. The 1st step in management after clinical diagnosis of pott's fracture is:

- a) Searching for associated injuries.
- b) Trial to reduce dislocated ankle.
- c) X-ray for accurate diagnosis and exclusion of associated injuries.
- d) Proceed to fixation according to clinical diagnosis.

188. As regards irreducibility in posterior hip dislocation all are correct except:

- a) May lead to handicapping in neglected cases.
- b) May be due to button hole tear of joint capsule.
- c) May be due to entrapment of fragment from associated fracture acetabulum.
- d) May be due to spasm of muscles around the joint.

189. Morbidity and mortality in fracture neck femur is due to:

- a) Prolonged recumbency.
- b) Osteoporosis.
- c) Avascular necrosis of head.
- d) All of the above

190. The commonest causative organism in acute hematogenous osteomyelitis:

- a) Staph.
- b) E.coli.
- c) Strept.
- d) Salmonella typhi

191. Tuberculosis of hip joint is characterized by the following except:

- a) Always have blood borne origin.
- b) Presented by characteristic night pains (night cries).
- c) It can lead to new bone formation (bony ankylosis).
- d) None of the above.

192. Tuberculosis of the spine most likely originates from:

- a) Intervertebral disk.
- b) Cancellous vertebral body.
- c) Ligamentous structures.
- d) Paravertebral soft tissue.

193. The following tumor is more common in females:

- a) Osteoclastoma.
- b) Osteosarcoma.
- c) Ewing's sarcoma.
- d) Multiple myeloma.

194. In Pott's disease of the spine, all of the following statements are correct except:

- a) It affects the dorsolumbar region most often.
- b) It may affect one vertebra only.
- c) It is due to blood spread of tubercle bacilli from a primary focus.
- d) It may remain silent until deformity, cold abscess or paraplegia.

195. The signs of fractured shaft of a bone do not include:

- a) Deformity.
- b) Loss of all movements in the limb.
- c) Acute localized bone tenderness.
- d) Abnormal mobility in the line of the bone.

196. Which statement is untrue concerning Sudek's atrophy?

- a) Occurs most often after wrist and ankle injuries.
- b) Is characterized by severe pain and stiffness.
- c) Is never associated with local vasomotor symptoms.
- d) Produces characteristic radiological signs.
- e) May require sympathetic block or sympathectomy.

197. An elderly female sustained Colles' fracture which was properly treated. However, she developed severe pain and stiffness of the wrist with coldness and cyanosis of the hand. X-ray examination revealed diffuse decalcification of the bones. She proved to be suffering from:

- a) Causalgia.
- b) Sudek's atrophy.
- c) Osteoarthritis of wrist joint.
- d) Traumatic tenosynovitis.

198. A 9-year-old boy presented with limping and pain in the right knee two days after a fall in the street. On examination he looked ill and in severe pain with high fever and swelling of the knee region extending to the thigh which was warm and very tender. The most probable diagnosis is:

- a) Traumatic synovitis.
- b) Acute osteomyelitis of the femur.
- c) Septic arthritis of knee
- d) Bone sarcoma.

199. The most common osteolytic metastasis in bones are derived from the:

- a) Lung.
- b) Breast.
- c) Kidney.
- d) Prostate.

200. All of the following are true about soft tissues hematomas except:

- a) Most resolve spontaneously.
- b) If a cyst develops surgical excision may be required.
- c) The changes can become malignant.
- d) The bruised muscles may sometimes be replaced by cartilage.

201. What are the characteristics of bursae?

- a) They are normal structures designed to reduce friction.
- b) They are lined with synovial membrane and connected to the joint beneath.
- c) They have no nerve supply.
- d) All of the above

202. Volkmann's ischemia commonly occurs following:

- a) Fracture shaft humerus
- b) Supra-condylar fracture
- c) Colle's fracture
- d) Fracture lateral condyle humerus

203. Hematogenous osteomyelitis most frequently affects:

- a) The diaphysis of long bones
- b) The epiphysis of long bones
- c) The metaphysis of long bones
- d) The flat bones

204. Which of the following statements about tennis elbow is incorrect?

- a) It occurs only in tennis players.
- b) It is a strain of the common extensor origin from the external epicondyle of the humerus.
- c) It causes pain on the outer side of the elbow aggravated by dorsiflexion of the wrist.
- d) It is best treated by local injection of cortisone acetate.

205. Regarding acute osteomyelitis all are true, except:

- a) History of trauma to the affected limb is common.
- b) Pathology includes sequestrum formation.
- c) Pathology includes a subperiosteal abscess.
- d) Pathology starts in the metaphysis.

206. In chronic osteomyelitis, "involucrum" refers to:

- a) New bone formed to replace dead bone.
- b) A cavity filled with pus and necrotic tissue.
- c) Sinus discharging pus.
- d) Malignant transformation.

207. Which of the following statements about open fractures is false?

- a) Intravenous antibiotics should be administered as soon as possible.
- b) They should be regarded as an emergency.
- c) Wound closure is necessary within 8 hours.
- d) Systematic wound debridement and irrigation should be performed.

208. The goals of proper bone fracture reduction include the followings except:

- a) Providing patient comfort and analgesia.
- b) Allowing for restoration of length of the extremity.
- c) Correcting angular deformity rotation.
- d) Allowing for some overlapping of the distal over the proximal segment of the fractured long bone.

209. Non-union of fractures is caused by all the followings, except:

- a) Separation of the fracture fragments
- b) Interposition of tissue
- c) Angulation at the site of fracture
- d) Poor blood supply

210. The neurovascular structure most commonly injured as a result of an anterior dislocation of the shoulder is the:

- a) Musculocutaneous nerve.
- b) Axillary nerve.
- c) Axillary artery.
- d) Median nerve

211. The radial nerve is at greatest risk for injury with which fracture?

- a) Fracture of the surgical neck of the humerus.
- b) Fracture of the shaft of the humerus.
- c) Supracondylar fracture of the humerus.
- d) Olecranon fractures.

212. Regarding fracture surgical neck of humerus all are true, except:

- a) Occurs due to fall on outstretched hand.
- b) Common in children.
- c) Osteoporosis is an important risk factor
- d) May be complicated by injury of axillary nerve.

213. All the following may complicate supracondylar fracture humerus, except:

- a) Median nerve injury.
- b) Volkmann's ischemic contracture.
- c) Myositis ossificans
- d) Brachial plexus palsy.

214. In fractures of the femoral neck, all of the following is true, except:

- a) Commonly occur in old age due to associated osteoporosis.
- b) The patient cannot lift the extended lower limb.
- c) Associated with external rotation & shortening of the limb.
- d) Conservative treatment (hip spica) is the treatment of choice.

215. Fracture neck femur in the elderly:

- a) Usually results from direct trauma to the upper thigh
- b) External fixation is usually adequate in most patients
- c) Surgical replacement of the femoral head with prosthesis should be done as soon as possible
- d) Traction in bed for 3 months is the ideal treatment for patients over 70 years.

216. A 12-year-old boy presents with pain in his lower limb. Plain X-ray shows a sunburst appearance with bone destruction, soft tissue mass and new bone formation of the metaphysis of the femur. The most probable diagnosis is:

- a) Osteoma
- b) Ewing sarcoma
- c) Osteosarcoma
- d) Osteoidosteoma

217. Choose the incorrect statement about osteomyelitis:

- a) The metaphysis is usually where the infection starts.
- b) In children, the tibia and fibula are more commonly affected.
- c) Streptococcus pyogenes is responsible for 90% of the cases.
- d) In sickle cell disease, salmonella typhi is the most common cause.

218. As regards fracture of the clavicle, all are true, except:

- a) Usually due to a fall on an outstretched hand.
- b) Fracture usually occurs at the junction of medial 1/3 and lateral 2/3 of the clavicle.
- c) Malunion is common.
- d) Outer fragment displaced downwards and proximal fragment displaced upwards.

219. Isolated fractures of the tibia that are not displaced are usually treated by:

- a) Rest.
- b) External fixation.
- c) Above knee plaster cast.
- d) Internal fixation with intramedullary nail.

220. Which of the following signs and symptoms are pathognomonic of hyperparathyroidism?

- a) Osteitis fibrosa cystica.
- b) Pathologic fractures of the metacarpals.
- c) Calcium oxalate nephrolithiasis.
- d) Hypercalcemia causing mental status changes.

221. Nerve injury is famous for this kind of fracture:

- a) Neck femur.
- b) Neck humerus.
- c) Colle's fracture.
- d) Supracondylar humerus.

222. Bony metastasis is famous with this cancer:

- a) Renal cell carcinoma.
- b) Wilms' tumor.
- c) Cancer bladder.
- d) Cancer prostate.

223. Crepitus is heard/felt in which of the following:

- a) Fracture.
- b) Osteoarthritis.
- c) Subcutaneous.
- d) All of the above.

224. Regarding acute hematogenous osteomyelitis, all of the following are true, except:

- a) Is caused by staphylococcus aureus in 100% of the cases.
- b) Horizontal spread of infection results in subperiosteal sequestra.
- c) Has to be differentiated from Ewing's sarcoma.
- d) The plain X-ray is normal initially.

225. Genu valgum deformity means:

- a) Bow legs.
- b) Knock knees.
- c) Increased femoral neck shift angle.
- d) Internal rotation of the tibia.

226. Cubitus valgus means:

- a) Bow legs.
- b) Knock knees.
- c) Inward deviation of the long axis of forearm.
- d) Outward deviation of the long axis of the forearm.

227. Regarding osteosarcoma, all of the following are true except:

- a) It is usually metaphyseal in location.
- b) Clinically and radiologically it may mimic acute osteomyelitis.
- c) It is a primary malignant bone tumor.
- d) MRI is an important diagnostic imaging tool.

228. A fall on the outstretched hand can cause the following injuries except:

- a) Colles's fracture
- b) Supracondylar fracture of the humerus.
- c) Fracture of the scapular blade
- d) Posterior dislocation of the elbow

229. Regarding acute osteomyelitis all are true except:

- a) Is commonly caused by staph aureus
- b) Usually begins at the diaphysis
- c) Infection is usually blood borne
- d) Bone drilling is advised if rapid response to antibiotics does not occur

230. Regarding osteogenic sarcoma all are true except:

- a) Usually affects teen-agers
- b) Usually affects epiphysis
- c) May complicate Paget's disease
- d) Usually metastasize by blood stream

231. Regarding giant cell tumor all are true except:

- a) Occurs before 20 year
- b) Soap bubble appearance in X-ray
- c) Affects the ends of long bones
- d) Arise from epiphysis

232. Regarding fracture neck femur all are true except:

- a) Commonly occurs in elderly patients with senile osteoporosis
- b) Intra-capsular fractures may be complicated by avascular necrosis of the head of femur
- c) Extra-capsular fractures may be complicated by mal-union
- d) Elderly patient with avascular necrosis is treated lag screw

233. Regarding fracture of the clavicle are true except:

- a) Caused by fall on outstretched hand
- b) Fracture usually affects the medial third
- c) The medial fragment is pulled up by sternomastoid muscle
- d) Malunion is of functional significance

234. False regarding intertrochanteric fracture of femur:

- a) Limb shortening.
- b) Malunion.
- c) Avascular necrosis of femoral head.
- d) Internal fixation is preferred.

235. Chose the correct statement:

- a) In closed fracture the overlying skin laceration must be sutured.
- b) Comminuted fracture means there is adjacent soft tissue damage like nerves or vessels.
- c) Stress fracture occurs in diseased bone.
- d) Greenstick fracture occurs in children under age of ten.

236. The commonest complication of fracture clavicle is:

- a) Stiffness if shoulder
- b) Malunion
- c) Non-union
- d) Brachial plexus injury

237. Regarding osteosarcoma, all are true except:

- a) Is mostly a disease of adolescence and early adult life.
- b) Affects the epiphysis of long bones
- c) Are most commonly seen around the knee and in the proximal humerus
- d) Hematogenous spread can result in pulmonary metastasis

238. Which of the following statements regarding tuberculosis of the spine is false?

- a) It's primary tuberculosis.
- b) Disease starts in the anterior vertebral margin.
- c) Back pain is the most common presenting symptom.
- d) It may be complicated by paraplegia.

239. An onion peel appearance of a rib on computed tomography is suggestive of:

- a) Chondroma.
- b) Osteosarcoma.
- c) Plasmacytoma.
- d) Ewing's sarcoma.

240. A 16-year-old boy presents with loss of weight, pain and fever. On examination, a soft tissue mass is palpable over the mid-thigh region, X-ray shows a large soft tissue mass with concentric layers of new bone formation, the diagnosis will be:

- a) Osteosarcoma.
- b) Osteoclastoma.
- c) Ewing's sarcoma.
- d) Leiomyosarcoma

241. Which of the following tumors arise from epiphysis?

- a) Ewing's sarcoma
- b) Osteoclastoma
- c) Chondromyxoid fibroma
- d) Osteosarcoma

242. Regarding a greenstick fracture all are true except:

- a) Seen in children
- b) Breaking of cortex on one side (convex side) and bending cortex on the other side (concave side)
- c) Occurs because the bones more tough
- d) Named greenstick because branches of a young plant (which still fresh and) behave in a similar fashion

243. Anterior dislocation of shoulder may be complicated by:

- a) Brachial plexus injury
- b) Tear of rotator cuff
- c) Fracture head of humerus
- d) All of the above

244. A 20-year-old female presented to the clinic with a swelling around her knee joint, she reported that she is having mild pain in her knee over the last few weeks before the swelling appeared on examination she was feverish (38°C) with a firm to hard swelling in the lower end femur, X-ray was done showing sun ray appearance. The possible diagnosis will be:

- a) Ewing's sarcoma
- b) Osteoclastoma
- c) Osteosarcoma
- d) Giant cell tumor of bone

245. Regarding osteosarcoma:

- a) Affects the epiphyses of long bones.
- b) Are most commonly seen around the knee
- c) Characterized by bone destruction with new bone formation
- d) Most patients are above 40 years of age.

- 246. All of the following muscles control the rotator cuff except:**
- a) Supraspinatus
 - b) Infraspinatus
 - c) Teres major
 - d) Subscapularis
- 247. The most common bone malignancy in children is**
- a) Periosteal sarcoma
 - b) Ewing's sarcoma
 - c) Osteosarcoma
 - d) Rhabdomyosarcoma
- 248. Which of the following is the radiographic finding of osteomyelitis?**
- a) Localized osteoporosis
 - b) Periosteal thickening
 - c) Patchy sclerosis
 - d) Lytic area
- 249. Which of the following femur fracture with significant blood loss?**
- a) Femoral neck fracture
 - b) Intertrochanteric fracture
 - c) Distal femoral metaphysic fracture
 - d) Femoral shaft fracture
- 250. The most appropriate initial treatment for a symptomatic osteoid osteoma of the distal tibia is:**
- a) Oral anti-inflammatory medication (aspirin or NSAID)
 - b) Radiofrequency ablation
 - c) Local resection
 - d) Amputation
- 251. A 40-year-old construction worker is pulled from the rubble after a building collapses and pins his right lower leg. X-rays in the emergency department reveal a comminuted fracture of the right tibia and fibula. The dorsalispedis and posterior tibial pulses are palpable. The patient complains of severe pain that is accentuated with dorsiflexion of the foot. The calf feels tense. What is the appropriate step?**
- a) ORIF of fracture
 - b) ORIF of fracture plus three-compartment fasciotomy
 - c) Closed reduction and observation
 - d) ORIF only if pulses become weak
 - e) Arteriogram
- 252. A football player extends his right arm to make a tackle but experiences intense pain on tackle contact with subsequent inability to move the right arm. Examination reveals swelling and tenderness about the shoulder with loss of the normal deltoid contour. Which is the most likely diagnosis?**
- a) Brachial plexus injury
 - b) Anterior dislocation of the shoulder
 - c) Fracture of the proximal posterior portion of the humerus
 - d) Deltoid muscle rupture

- 253. Which of the following options is not a clinical feature common to osteoarthritis and rheumatoid arthritis of the knee?**
- a) Joint effusion
 - b) Baker's cyst
 - c) Raised c reactive protein
 - d) Subcutaneous nodule.
- 254. Rheumatoid arthritis is multisystem connective tissue disease which of the following is not a pulmonary complication of rheumatoid arthritis?**
- a) Effusion
 - b) Emphysema
 - c) Restrictive lung disease
 - d) Obstructive lung disease
- 255. All of the following are dermatological manifestation of rheumatoid arthritis except:**
- a) Skin nodules
 - b) Livedo reticularis
 - c) Erythema nodosum
 - d) Pyoderma gangrenosum
- 256. Which of the following pathological changes is not a feature of rheumatoid disease of the hand?**
- a) Boutonniere's deformity
 - b) Squaring of the thumb
 - c) Ulnar deviation
 - d) Swan-neck deformity
- 257. A patient presents to his GP surgery complaining of a swelling on his wrist. On examination, there is a focal swelling on the dorsal aspect of the wrist. It is smooth and non-tender. The overlying skin is normal and moves freely over the mass, however, it seems to be fixed to the tendon. What is the most likely diagnosis?**
- a) Sebaceous cyst
 - b) Lipoma
 - c) Ganglion
 - d) Fibroma
- 258. A patient presents to the outpatients department following referral for carpal tunnel syndrome. While taking the history and examining the patient you attempt to evaluate whether any permanent nerve injury has occurred. Which sign is often the first indicator of lasting nerve injury?**
- a) Pins and needles
 - b) Thenar muscle wasting
 - c) Reduced two-point discrimination
 - d) Positive phalen's test
- 259. A patient with longstanding osteoarthritis presents with pain on movement of his shoulder. You perform a full shoulder exam. You note that you can re-create the pain by asking the patient to abduct his shoulder against resistance. You conclude that there is impingement of which one of the following structures:**
- a) Teres minor
 - b) Supraspinatus
 - c) Subscapularis
 - d) Subacromial bursa

- 260. Out of the following bone pathologies, which is not correctly matched to the most common site at which it occurs?**
- a) Osteoma - cranial vault and skull
 - b) Ewing's sarcoma - mid-shaft femur
 - c) Osteosarcoma - femur, just above the knee
 - d) Osteomyelitis - mid-shaft long bone
- 261. Which one of the following organisms is most commonly associated with septic arthritis?**
- a) Hemophilus influenza
 - b) B-haemolytic streptococci
 - c) Streptococcus pneumoniae
 - d) Staphylococcus aureus
- 262. Which of the following conditions/factors does not predispose to gout?**
- a) Psoriasis
 - b) Aspirin
 - c) Lesch-Nyhan syndrome
 - d) Xanthine oxidase deficiency
- 263. A 56-year-old man is admitted with pyrexia and an acutely painful knee. On examination, the patient is holding the joint rigidly still and is extremely reluctant to let you manipulate the joint. The knee is obviously effused and erythematous. Joint aspirate is strongly positive for white cells ($75000/\text{mm}^3$) with polymorphs accounting for 90% of these. Blood tests show a raised urate level. The diagnosis is:**
- a) Gout
 - b) Pseudogout
 - c) Septic arthritis
 - d) Monoarticular acute rheumatoid arthritis
- 264. A patient presents to the outpatients department following a car accident in which she has hurt her neck. Since then she has noticed some numbness in her right shoulder and neck pain. On examination you note weakness in shoulder abduction, elbow flexion, absent biceps reflex, and paraesthesia affecting the badge area over her right shoulder. The likely diagnosis is:**
- a) Radiculopathy
 - b) Musculocutaneous nerve injury
 - c) Axillary nerve injury
 - d) Brown-Sequard syndrome
- 265. Osteoblastic bone secondaries are seen in this tumor:**
- a) Renal cell carcinoma
 - b) Non-Hodgkin's lymphoma
 - c) Follicular thyroid carcinoma
 - d) Prostatic adenocarcinoma
- 266. A 74-year-old man tripped on a step. He fell down and is unable to stand up. He has pain in the right hip. The whole right lower limb is abducted and externally rotated. The most likely diagnosis is:**
- a) Fracture of the neck of right femur.
 - b) Posterior hip dislocation.
 - c) Central hip dislocation.
 - d) Fracture of the shaft of femur.

- 267. Which one of the following fractures is known to cause bone necrosis?**
- a) Fracture of scaphoid bone.
 - b) Fracture of the shaft of a metacarpal bone.
 - c) Fracture of shaft of humerus.
 - d) Fracture of shaft of femur.
- 268. Internal fixation is indicated for all the following fractures, except:**
- a) Extra-capsular fracture of neck of femur.
 - b) Supracondylar fracture of the femur with popliteal artery injury.
 - c) Fracture of the shaft of femur in an adult.
 - d) Compound fracture of the tibia.
- 269. Fat embolism is most likely to follow fracture of:**
- a) Ribs.
 - b) Clavicle.
 - c) Tarsal bones.
 - d) Shaft of femur.
- 270. About osteosarcoma, all of the following statements are true, except:**
- a) Paget's disease is a predisposing factor.
 - b) The commonest site is the lower end of femur.
 - c) It arises from the metaphysis of the growing end of a long bone.
 - d) This is the second common primary malignancy of bones.
- 271. About osteosarcoma, one statement only is true:**
- a) The tumor is purely osteolytic.
 - b) The tumor does not invade the neighboring soft tissues.
 - c) Hematogenous spread goes mainly to the liver.
 - d) Alfa fetoprotein is elevated.
- 272. Regarding bone metastasis, pick up the wrong statement:**
- a) Patient can present with polyuria and depression
 - b) Pathological fractures of the femur are treated by amputation
 - c) The commonest primary is cancer breast
 - d) Prostate carcinoma gives osteoblastic secondaries
- 273. The following statements about osteochondroma (exostosis) are true, except:**
- a) Never affects flat bones.
 - b) Can leads to mechanical block of the near joint.
 - c) Affects the diaphysis of long bones.
 - d) May be associated with dwarfism.
- 274. The treatment of acute septic arthritis includes the following except:**
- a) Broad spectrum systemic antibiotics.
 - b) Splint in the position of function.
 - c) Arthrotomy and drainage.
 - d) Local corticosteroids injection in the affected joint.

275. Generalized osteitis fibrosa cystica is characterized by the following features, except:

- a) Hypo-parathyroidism.
- b) Diffuse rarefaction and decalcification of bones.
- c) Multiple cysts of the bones.
- d) Urinary symptoms due to renal calculi.
- e) Pathological fracture of the affected bones.

276. The most characteristic feature of volkmann's contracture is:

- a) Wrist drop.
- b) Sensory loss on the medial aspect of the forearm.
- c) Extension of the metacarpo-phalangeal joints with flexion of the inter-phalangeal joints.
- d) Wasting of the forearm extensor muscles.

277. Complications of fracture tibia include all except:

- a) Leg shortening.
- b) Soft tissue injury.
- c) Fat embolism.
- d) Delayed union.

278. The nerve commonly injured with fracture neck of humerus is:

- a) Axillary nerve.
- b) Subscapular nerve.
- c) Nerve to latissimus dorsi.
- d) Radial nerve.

279. The incorrect statement concerning chronic osteomyelitis is:

- a) Usually following inadequately treated acute attack.
- b) Can be complicated by pyogenic septic arthritis.
- c) Sequestrum is a dead separated pieces of bone.
- d) There is subperiosteal new bone formation.

280. Regarding healing of bone fractures all of the following conditions are true, except:

- a) Children better than in adults.
- b) Transverse better than in oblique fractures.
- c) Impacted better than in distracted fractures.
- d) Internal better than in external fixation.

281. Regarding supra-condylar fracture of the humerus all are true, except:

- a) Malunion can lead to a cubitus versus deformity.
- b) Brachial artery injury is a famous complication.
- c) Is commonly seen among children.
- d) Usually treated by a full arm plaster cast

282. The most common site of Ewing's sarcoma is:

- a) Ribs.
- b) Femur.
- c) Tibia.
- d) Radius.

283. In stage of primary callus in bone healing the reaction is:

- a) Acidic.
- b) Alkaline.
- c) Neutral.
- d) All of the above.

284. Causes of gangrene after fracture in a limb do not include:

- a) Direct crushing of the tissues
- b) Injury to the main vessels
- c) Tight plasters
- d) Septic infection

285. The following are parts if displacement of Colle's fracture, except:

- a) Dorsal shift.
- b) Dorsal tilt.
- c) Radial tilt.
- d) Rotational displacement.

286. If an unstable hip is detected at birth the best management is:

- a) Do nothing and re-examine every six months as only a minority of hips develop into a persistent dislocation.
- b) Use a splint to keep the hip joint in 45° flexion and adduction.
- c) Use a splint to keep the hip joint in 90° flexion and abduction.
- d) Advise operative stabilization

287. Which of the following is involved in the blood supply of the adult femoral head?

- a) Artery of the ligamentum teres.
- b) Retinacular branches of the medial circumflex femoral artery
- c) Capsular branches of the superior gluteal artery
- d) All of the above

288. Radial nerve palsy may occur in fracture of humerus involving:

- a) Surgical neck.
- b) Lower end.
- c) Shaft.
- d) At all the above locations

289. Regarding enchondroma all of the following are true except:

- a) It usually extends to an epiphyseal (subchondral) location
- b) Onion peel appearance is a characteristics X-ray finding.
- c) Clinical & radiographic picture may mimic acute osteomyelitis.
- d) It is a chondrogenic bone tumor

290. A 39 years old male presents in the emergency room after a high speed motor vehicle accident, the patient has been intubated once admitted and is on assisted ventilation, he is unconscious, physical examination reveals a distended abdomen, and initial screening x ray reveals a displaced fracture of the pelvic ring, the initial evaluation should include:

- a) Fluid resuscitation and establishment of venous access.
- b) Through physical examination, including evaluation of the urinary bladder and gastrointestinal tract.
- c) Emergency application of external fixation.
- d) CT of the abdomen.

291. Immobilization is not required in fractures involving:

- a) Ribs.
- b) Scapula.
- c) Proximal humerus in elderly.
- d) All of the above

292. Following a motor car accident, a patient was found to have fracture shaft femur. Which of the following is a sure physical finding of concomitant arterial injury?

- a) Large thigh hematoma
- b) Pulsating thigh swelling
- c) Extensive ecchymosis over the fracture site
- d) Absent dorsalis pedis pulse

293. In contrast to closed reduction, open reduction of fracture:

- a) Produces a shorter healing time.
- b) Decreases trauma to the fracture site.
- c) Reduces the risk of infection.
- d) None of the above

294. In tuberculosis of the bone:

- a) The local reaction is characterized by extensive new bone formation.
- b) The metaphysis is the commonest site involved.
- c) The infection is usually secondary to a distant focus of the disease.
- d) Extension of the bone abscess into the joint is common

295. When performing a four compartment fasciotomy for compartment syndrome in leg, radial and lateral incisions are created. Which of the following compartments is opened through the medial incision?

- a) Anterior compartment
- b) Peroneal compartment
- c) Deep posterior compartment
- d) None of the above

296. Which of the following regarding the gustillo classification of fractures is false?

- a) It applies only to the soft tissues.
- b) It relies primarily on the length of any laceration.
- c) It takes account of whether or not there is soft-tissue cover of fractured bone.
- d) It takes account of contamination.

297. Which one of the following statements regarding the treatment of fractures is true?

- a) All fractures should be reduced.
- b) Relative stability means that some movement at the fracture site is going to occur.
- c) Absolute stability is obtained by getting exact reduction and then compressing the fragments of the fracture together.
- d) Absolute stability should not be attempted if, in achieving it, the blood supply to the bone will be compromised

- 298. Which of the following orthopedic screws are most commonly used to secure a distal bone fragment to a more proximal fragment?**
- a) Cortical screws
 - b) Cancellous screws
 - c) Lag screws (malleolar lag screws)
 - d) Thompson screws
- 299. Pubic ramus fractures are most often associated with:**
- a) Injuries to the urethra
 - b) Injuries to a hollow viscus
 - c) Sacral fractures
 - d) Acetabular fracture
- 300. A large acute tear in the medial meniscus in a young athlete is best treated by:**
- a) Immobilization and anti-inflammatory agents
 - b) Repair of the meniscus
 - c) Resection of the meniscus
 - d) Resection of the meniscus and replacement with allograft
- 301. A 60-year-old man is hit by a pickup truck and brought to the emergency department with a blood pressure of 70/50 mmHg. Peritoneal lavage showed no blood in the abdomen. The blood pressure is elevated to 85 systolic following the administration of 2l of ringer's lactate. An X-ray showed a pelvic fracture. What is the next step in management?**
- a) Exploratory laparotomy with packing of the pelvis
 - b) CT scan of the pelvis
 - c) External fixation of the pelvis
 - d) Open reduction and internal fixation (ORIF) of the pelvis
- 302. A 65-year-old man is brought to the hospital after being hit by a car. His blood pressure is 150/90 mmHg, and pulse is 120 b/m. There is deformity just below the left knee and no distal pulses palpable in that leg. Plain films show proximal tibia and fibula fractures. What is the next step in management?**
- a) Operative intervention to restore flow with an arterial shunt
 - b) Angiography
 - c) Doppler ultrasound
 - d) Operative reduction and internal fixation
- 303. A 43-year-old woman is thrown from a car following a car crash. She presents to the emergency department with a fracture of the pelvis. Her blood pressure is 80/60 mmHg, pulse is 110 bpm, and respiratory rate is 26 breaths per minute. Bright red blood is found on rectal examination and bony fragments can be palpated through the rectal wall. The patient remains hypotensive despite 3 liters of ringer's lactate and 2 units of type-specific blood. What is the most important step in management?**
- a) Exploratory laparotomy and colostomy
 - b) External fixation of the pelvic fracture
 - c) Pneumatic Anti-Shock Garment (PASG)
 - d) Fresh-frozen plasma

- 304. A 47-year-old man awakens with low back pain after a weekend of gardening. He recalls no specific incident of trauma and has never had back pain before. There is no radiation of the pain and no disturbance of normal bowel or bladder function. The rom of the low back is painful and restricted in all planes, and there is Para spinal tenderness from l2 to LS on the right. Scoliosis and kyphosis are absent. Findings on straight-leg raising test are negative, reflexes are active and equal, and the patient can walk on his heels and toes. Findings on X-rays of the lumbar spine are normal. Which of the following is the best treatment?**
- a) Bed rest for 48 hours, anti-inflammatory agents, heat to the low back, and non-narcotic analgesics.
 - b) Bed rest for 7-10 days, heat to the lower back, anti-inflammatory agents, muscle relaxants, and analgesics
 - c) Hospitalization for pelvic traction, physical therapy, anti-inflammatory agents, intramuscularly analgesics, and muscle relaxants
 - d) Immediate magnetic resonance image (MRI) for the lumbar spine
- 305. A 40-year-old woman was involved in a car crash. She was unconscious for 5 minutes. X-ray revealed a depressed fracture in the frontal region. Which of the following statements is true of skull fracture?**
- a) It always requires surgical exploration.
 - b) It is compound if multiple.
 - c) It requires burr holes if compound.
 - d) In the anterior cranial fossa, it may produce rhinorrhea.
- 306. A 30-year-old man sustained a pelvic fracture with a large pelvic hematoma. Rectal examination reveals a large laceration in the rectal wall and a non-palpable prostate. His vital signs have stabilized with multiple transfusions. This patient requires which of the following?**
- a) Resuscitation, blood transfusions, external fixation, and exploratory laparotomy.
 - b) Resuscitation, angiography, embolization of the pelvic bleeders, exploratory laparotomy.
 - c) Resuscitation, broad-spectrum antibiotics, retrograde cystourethrogram, CT of abdomen and pelvis, suprapubic cystostomy, and diverting colostomy.
 - d) Exploratory laparotomy, urinary diversion, sigmoid colostomy, presacral drainage, and debridement of the rectal wall.
- 307. Which of the following is the most common secondary cause of hemarthrosis of the knee?**
- a) Anterior cruciate ligament injury
 - b) Osteophyte fracture
 - c) Patella dislocation
 - d) None of the above

308. According to the current national institute for health and clinical excellence guidelines, all of the following are indications for use of bisphosphonates in the treatment of osteoporosis, except:

- a) Any patient with a fracture over the age of 65
- b) Any patient with a fracture aged 65-75 and a T score less than -2.5
- c) Any patient taking high-dose systemic steroids for more than 3 months with a T score less than -1.3
- d) Any smoker with a fracture aged <65 and a T score less than -2.5

309. About osteosarcoma, all the following statements are true, except?

- a) Plain X-ray shows Codman's triangle.
- b) Definitive diagnosis rests on a combination of clinical and radiographic findings (neither sunray nor Codman triangle is pathognomonic of osteosarcoma)
- c) Wide excision is the main treatment of early cases.
- d) Limb salvage is possible in early cases.

310. About giant cell tumors of bone, all the following statements are true, except:

- a) The main symptom is pain.
- b) It can cause pathological fracture.
- c) The cut section of the tumor is reddish brown.
- d) Treatment is by wide resection with a safety margin, followed by chemotherapy.

311. Regarding fracture pelvis all are true, except:

- a) It is unstable, if there is disruption of the true pelvic ring.
- b) Commonly associated with visceral injury.
- c) Open book type is due to vertical shear trauma.
- d) Always treated with skeletal traction.

312. Intertrochanteric fracture neck femur:

- a) Usually complicated by a vascular necrosis.
- b) Intra medullary nail can be a line of treatment.
- c) Is an extra-capsular fracture.
- d) The limb is usually adducted and externally rotated.

313. Which of the following statements about open fractures is correct?

- a) They are not considered as an emergency.
- b) Wound closure is necessary within 8 hours.
- c) Systematic wound debridement and irrigation should be performed.
- d) They most often result from low-energy injuries.

- 314. The goals of proper fracture reduction include all of the following, except?**
- a) Allowing for restoration of length of the extremity.
 - b) Correcting angular deformity and rotation.
 - c) Enabling immediate motion of all fractured extremities.
 - d) Providing a foundation for bone healing and union.
- 315. Which statement is true about the “three-column concept” of spinal fracture stability?**
- a) An unstable spine consists of bone or soft tissue injury in a single column.
 - b) An unstable spine involves injury to all three columns.
 - c) Instability results from injury to two columns plus evidence of compression of the dural tube.
 - d) Instability results from significant bone and/or soft tissue injury in two columns.
- 316. All of the following statements are true of Jefferson’s fracture of the atlas except:**
- a) The injury results from an axial load to the cervical spine.
 - b) The fracture fragments characteristically displace into the spinal canal.
 - c) Neurologic injury is uncommon.
 - d) Computed tomography (CT) best demonstrates the fracture's configuration.
- 317. Which of the following statements about burst fractures of the thoracolumbar spine are correct?**
- a) The injury most often occurs at the lumbosacral junction.
 - b) The injury most often occurs at the cervicothoracic junction.
 - c) Anterior and middle column failures are always present in this injury.
 - d) Laminectomy provides satisfactory decompression.
- 318. The classification of fractures of the proximal humerus is based on:**
- a) Age and gender.
 - b) The number of fracture segments and amount of displacement.
 - c) The mechanism of injury.
 - d) Presence or absence of associated dislocations.
- 319. The best method of treating a supracondylar fracture of the humerus in a child that is unstable when the elbow is flexed to 90 degrees is:**
- a) Hyperflexion of the elbow to 130 degrees and casting.
 - b) Open reduction and internal fixation.
 - c) Percutaneous pinning.
 - d) Closed reduction and casting.
- 320. Both-bone forearm fractures in adults are best managed by:**
- a) Closed reduction and casting.
 - b) Closed reduction and application of an external fixator.
 - c) Open reduction and placement of intramedullary rods.
 - d) Open reduction and internal fixation with compression plates.

- 321. The most consistent sign of a fracture of the carpal scaphoid is:**
- a) Wrist pain during attempted push-ups.
 - b) Diffuse swelling on the dorsum of the wrist.
 - c) Localized tenderness in the anatomic snuffbox.
 - d) Wrist popping on movement.
- 322. A patient describes a fall on the outstretched hand during sports activities. Multiple radiographic views show no distinct fracture. He is tender to palpation in the anatomic snuffbox. The most suitable method of management is:**
- a) Diagnose “sprained wrist” and apply an elastic bandage.
 - b) Diagnose suspected scaphoid fracture and apply a short-arm cast to include the thumb.
 - c) Apply a canvas wrist splint for immobilization.
 - d) Prescribe salicylates and permit continued activity.
- 323. Median nerve compression syndrome in which the patient has motor weakness of the flexor pollicis longus and the flexor digitorum profundus of the index finger without alteration in sensibility is due to:**
- a) Compression of the median nerve at the elbow by the lacertus fibrosus.
 - b) Compression of the median nerve in the axilla.
 - c) Compression of the anterior interosseous nerve by the arcade of Frohse.
 - d) Compression of the anterior interosseous nerve by an aberrant accessory forearm muscle.
- 324. Total interruption of the radial nerve at mid arm produces specific findings on physical examination. The most complete description of the neurologic deficit includes:**
- a) Paralysis of the thumb extensors, interphalangeal joint extensors, extensor carpi radialis, and extensor carpi ulnaris.
 - b) Paralysis of the extensor carpi radialis longus and brevis, abductor pollicis longus, extensor pollicis brevis, and extensor pollicis longus.
 - c) Paralysis of the brachioradialis, extensor carpi radialis longus and brevis, extensor carpi ulnaris, thumb extensors, and metacarpophalangeal (MCP) joint extensors, and loss of cutaneous sensibility at the dorsal aspect of the thumb and index fingers.
 - d) Paralysis of the brachioradialis, extensor carpi radialis longus and brevis, radialis, thumb extensors, finger MCP joint extensors, and flexor carpi radialis, and loss of sensation in the cutaneous distribution over the dorsal aspect of thumb and index fingers.
- 325. The most common physical findings in a patient with median nerve compression at the wrist (carpal tunnel syndrome) are:**
- a) Diminished two-point discrimination and dryness of the index and long fingers.
 - b) Atrophy of the abductor pollicis brevis and opponens pollicis.
 - c) A positive percussion test at the wrist and a positive wrist flexion test producing paresthesias at the thumb, index, and long fingers.
 - d) A weak grip in addition to hand cramping and difficulty writing.

326. Which of the following describes the most desirable position in which to immobilize the hand?

- a) Wrist is flexed, MCP joints are extended, and IP joints are flexed.
- b) Wrist is flexed, MCP joints are flexed, and IP joints are extended.
- c) Wrist is extended, MCP joints are flexed, and IP joints are flexed.
- d) Wrist is extended, MCP joints are flexed, and IP joints are extended.

327. An early sign of compartment syndrome in the hand includes:

- a) Pain with passive stretch of the digits.
- b) Absent radial pulse.
- c) Motor paralysis.
- d) Stiffness of the digits.

328. Palmar dislocation of the proximal interphalangeal joint (PIP) joint with fracture:

- a) Is treated by splinting with the PIP joint in flexion.
- b) Is treated by splinting with the PIP joint and DIP joints in extension.
- c) If not splinted properly will cause a boutonniere deformity.
- d) If not splinted properly will cause a swan neck deformity.

329. Fracture of the fifth metacarpal neck:

- a) Usually requires open reduction and internal fixation.
- b) Must be reduced anatomically and stabilized with pins.
- c) Is called a “boxer's fracture.”
- d) Will result in significant functional disability if angulated 30 degrees dorsally.

330. A Bennett's fracture is:

- a) An extra-articular fracture of the base of the thumb metacarpal.
- b) Displaced by the pull of the abductor pollicis longus and adductor pollicis.
- c) Displaced by the pull of the abductor pollicis longus and extensor pollicis longus.
- d) A comminuted t-type fracture of the base of the thumb metacarpal.

331. A 39-year-old male presents in the emergency room after a high-speed motor vehicle accident. The patient has been intubated by paramedics at the scene and is on assisted ventilation. He is unconscious. Physical examination reveals a distended abdomen, and initial screening X-rays reveal a displaced fracture of the pelvic ring. Initial evaluation should include which of the following?

- a) Closed reduction and casting.
- b) Diagnostic peritoneal lavage.
- c) Emergent application of external fixation.
- d) CT of the abdomen.

- 332. A patient sustains a displaced fracture of both columns of the acetabulum with extension into the sciatic notch. The patient is initially placed in traction. After treatment of other associated injuries, pre-operative evaluation should include which of the following?**
- a) CT evaluation of the acetabular fracture.
 - b) Aspiration of the hip joint.
 - c) Preoperative ventilation-perfusion lung scan.
 - d) Prolonged bed rest.
- 333. All of the following statements about the blood supply to the hip are true, except:**
- a) The medial femoral circumflex artery circles around to the posterior aspect of the hip, where it becomes confluent with the retinacular blood vessels.
 - b) A small portion of the blood supply of the femoral head is provided by the obturator artery via the ligamentum teres.
 - c) Displacement of a femoral neck fracture can disrupt the branches of the medial femoral circumflex artery.
 - d) The retinacular vessels are supplied by the lateral femoral circumflex artery, which takes a posterior course.
- 334. A 24-year-old woman presents to the emergency room with a dislocated knee. In transferring the patient from stretcher to examining table, the knee is spontaneously reduced. Physical examination reveals no palpable or “dopplable” pulses in the foot on the affected side and booming pulses in the foot on the non-affected side. Proper treatment would include which of the following?**
- a) Doppler evaluation of the arteries in the lower extremity followed by arteriography if the doppler study was abnormal.
 - b) Magnetic resonance imaging (MRI) of the affected leg.
 - c) Emergent transfer to the operating room for exploration of the popliteal artery.
 - d) Immobilization of the knee with gentle warming of the extremity and elevation.
- 335. The Ilizarov device aids in management of tibial fractures because of its ability to:**
- a) Stabilize acute fractures.
 - b) Correct angular deformities in cases of malunion.
 - c) Transport bone by distraction callotasis.
 - d) All of the above.
- 336. An 8 cm. By 10 cm. Soft tissue defect over the proximal third of the tibia with exposed bone devoid of periosteum is best treated with:**
- a) Skin graft.
 - b) Gastrocnemius rotational myoplasty.
 - c) Soleus rotational myoplasty.
 - d) Free tissue transfer.

337. Prognosis of healing in tibial fractures correlates best with:

- a) Energy absorption at the time of fracture.
- b) Amount of soft tissue damage.
- c) Location of the fracture (i.e. in the proximal, middle, or distal third).
- d) Age and gender of patient.

338. Management of a III-b tibia fracture is best treated initially by:

- a) Plaster immobilization.
- b) Immediate plating.
- c) Reamed intramedullary nailing.
- d) External fixation.

339. The most frequent forces acting on the foot that cause ankle fractures are:

- a) External rotation.
- b) Internal rotation.
- c) Plantar flexion.
- d) Dorsiflexion.

340. Patients who have abduction injuries to the foot are prone to injure the following structures:

- a) Medial malleolus and deltoid.
- b) Lateral malleolus and deltoid ligament.
- c) Interosseous ligament.
- d) Posterior tibiofibular ligament.

341. Of the following bones in the foot, the tarsal bone that is most prone to vascular compromise is the:

- a) Calcaneus.
- b) Navicular.
- c) Talus.
- d) Cuboid.

342. A Lisfranc fracture is a fracture-dislocation involving:

- a) Calaneocuboid joint.
- b) Tarsometatarsal joint.
- c) Metatarsophalangeal joint.
- d) Talocalcaneal dislocation.

343. The most common reason for surgical amputation in the general population is:

- a) Trauma.
- b) Tumor.
- c) Infection.
- d) Ischemia.

344. The level of amputation in a dysvascular extremity is determined by:

- a) Clinical inspection.
- b) Xenon skin clearance.
- c) Doppler systolic blood pressure ratios.
- d) All of the above

345. Knee disarticulation has the following advantages over above-knee amputation:

- a) Shorter lever arm.
- b) Better cosmetic result.
- c) Easier prosthetic fitting.
- d) Supracondylar suspension.

346. A 5-year-old child presents with a 2-day history of the atraumatic onset of pain, erythema, and swelling of the right knee joint. The child is febrile with an elevated white blood cell count. The differential diagnosis includes all of the following, except:

- a) Acute rheumatic fever.
- b) Leukemia.
- c) Lymphoma.
- d) Acute septic arthritis.

347. Skeletal tuberculosis is:

- a) Of historical interest only.
- b) Most frequently encountered at the cervicothoracic junction.
- c) Most frequently encountered at the thoracolumbar junction.
- d) Seen in the absence of visceral tubercular infection.

348. A radical margin in the resection of a musculoskeletal tumor removes:

- a) A 5-cm. Margin of normal tissue around the neoplasm.
- b) The anatomic compartment in which the tumor arises.
- c) The joint adjacent to the neoplasm.
- d) The reactive capsule around the tumor.

349. The appropriate surgical procedure for the treatment of an osteosarcoma is based on:

- a) The age of the patient.
- b) The response of the lesion to neoadjuvant chemotherapy.
- c) The associated bone fractures.
- d) The radiographic aggressiveness of the lesion.

350. Which of the following statements about selection of an amputated part for replantation is correct?

- a) A good choice for replantation is an amputated thumb at the level of the proximal phalanx of the dominant hand of a 35-year-old salesman.
- b) The index finger should be replanted in an adult male if the amputation is at the base of the proximal phalanx.
- c) In a 42-year-old male accountant with a complete amputation of the leg just below the knee, replantation should be attempted.
- d) Replantation is advisable for a 20-year-old male with a complete amputation at the proximal forearm with 11 hours of warm ischemic time.

351. Which of the following statements about preservation of a completely amputated digit is correct?

- a) The amputated digit should be wrapped in a sterile, dry cloth and kept at body temperature.
- b) The amputated digit should be wrapped in a cloth moistened with saline or ringer's lactate solution and kept at body temperature.
- c) The amputated digit should be wrapped in a clean cloth and placed directly on ice.
- d) The amputated digit should be wrapped in a cloth or sponge moistened with ringer's lactate or saline solution and placed in a plastic bag to rest on ice.

352. All the statements about major limb replantations (amputation proximal to the hand or foot) are correct, except?

- a) Bone shortening is usually necessary.
- b) If the amputation occurred more than 6 hours before arrival in the operating room some type of temporary vascular shunting is indicated.
- c) Primary closure of all of the skin is generally recommended.
- d) Myonecrosis is a common cause of failure of the replantation.

353. The most crucial elements of the flexor retinacular or pulley system needed for full digital flexion include which annular pulleys?

- a) A 1.
- b) A 2.
- c) A 3.
- d) A 5.

354. Continuous passive mobilization following flexor tendon repair of zone ii injuries produces:

- a) Increased total arc of digital range of motion.
- b) Decreased incidence of infection.
- c) Increased incidence of postoperative tendon rupture.
- d) Increased incidence of infection.

355. Isolated flexor digitorum superficialis tendon function is determined by assessing:

- a) Flexion of the metacarpophalangeal joint.
- b) Flexion of the proximal interphalangeal joint with the adjacent digits held in extension.
- c) Flexion of the distal interphalangeal joint.
- d) Flexion of the proximal interphalangeal joint.

356. The zone of flexor tendon injury that carries the poorest prognosis following injury and repair is:

- a) Zone I.
- b) Zone II.
- c) Zone III.
- d) Zone IV.

357. The contraindications to primary repair of a flexor tendon injury include all of the following, except:

- a) Clean wound.
- b) Contaminated wound.
- c) Severe soft tissue trauma.
- d) Inexperienced surgeon.

358. Principles to be considered when using open reduction and internal fixation include all of the following, except:

- a) Anatomic reduction and fixation stability
- b) Maintenance of maximal soft tissue coverage and interposition between the device and skin surface
- c) Creation of fixation constructs that minimize load shielding of the underlying bone
- d) Removal of periosteal and vascular tissue to compromise stability.

359. Serum proteins that have been demonstrated to influence bone induction include all, except:

- a) Platelet-derived growth factor
- b) Transforming growth factor- β
- c) Gamma globulins.
- d) Fibroblast growth factor

360. All of the following statements are true concerning the treatment of diaphyseal fractures, except:

- a) The use of intramedullary rods allows early weight bearing and minimal immobilization
- b) The infection rate using intramedullary fixation devices is minimal
- c) Results for the use of intramedullary rods are better for fractures of the femoral shaft than the tibia
- d) Loss of limb length is inevitable with segmented or comminuted fractures

361. Which statement is true concerning the biologic mechanisms of fracture repair?

- a) The mechanisms involved depend primarily on the stability of the fracture
- b) The use of intramedullary rods enhances biologic mechanisms.
- c) Callus increases the cross-sectional area of the injury therefore weakening the structure
- d) Woven bone provides a permanent microstructure in the area of a fracture

362. The most important structural component of connective tissue is collagen. Which statement is not true concerning types of collagen?

- a) All collagen is fiber forming
- b) Type 1 collagen is the most abundant in the human body
- c) Type 2 collagen is found in cartilage
- d) The basement membrane collagens, type 4 and 5, do not form regular fibers

363. Which statement is not true concerning soft tissue repair?

- a) The first stage involves a formation of granulation tissue
- b) The initial pattern of collagen fibers and the degrees of waviness is random and therefore not as functional as the normal structure
- c) Early immobilization, regulated physical stimuli, and good vascular supply are beneficial to healing
- d) Normal physiologic loading conditions impair wound remodeling

364. Which of the following statements is true concerning types of bone found in the human body?

- a) Trabecular and cortical bone differ in their chemical, molecular and cellular components
- b) Primary bone formed from calcified connective tissue.
- c) Woven bone reflects a highly organized microstructural organization
- d) Secondary osteonal bone is the primary constituent of adult cortices

365. Which of the following statement is true concerning operative arthroscopy?

- a) Arthroscopy is not effective method for diagnosis and treatment of knee ligament injuries
- b) Arthroscopic repair allows almost immediate rehabilitation
- c) Despite advances an anterior cruciate ligament tear will essentially end any high level sports activity
- d) The presence of loose osteochondral fragments requires open arthrotomy

366. Which of the following statement is not true concerning bone remodeling?

- a) Remodeling can occur only on the surface of trabeculi
- b) The remodeling process takes approximately 120 days in an adult
- c) Trabecular bone remodeling occurs up to 10 times faster than cortical bone remodeling
- d) Bone modeling involves bone formation without resorption

367. Which of the following statement is correct concerning total joint replacement arthroplasty?

- a) Total knee and hip prostheses have a life expectancy of approximately 10 years
- b) The major failure of total joint arthroplasty is aseptic mechanical loosening at the interface between the bone, cement, and implant
- c) Biologic tissue ingrowth into a prosthesis worsens long-term results
- d) Rigid fixation at the time of implantation is not important to secure tissue

368. Urgent surgery is indicated for patients with prolapsed lumbar disc when presented with:

- a) Severe back pain not responding to medications
- b) Persistent numbness of lower limbs
- c) Foot drop and urinary retention

Questions (382&383)

A 57-year-old woman is referred to you for evaluation of difficulty with ambulation. Her chief complaint is weakness of her left leg that has been slowly progressive over the last 6 months. On neurologic examination, her mental status and cranial nerve findings are within normal limits. She has marked (grade 4-5) weakness of both her left leg and arm. On her left side, she has diminished sensation to light touch and vibration below the C5 dermatome. Sensation to pinprick and temperature are severely diminished on the right side below approximately the C8 dermatome. Her deep tendon reflexes and muscle tone are increased on the left.

369. This pattern of neurologic deficits is which of the following?

- a) Spondylolisthesis
- b) Guillain-Barre syndrome
- c) Brown-Sequard syndrome
- d) Central cord syndrome

370. This pattern of neurologic deficits is explained by injury to the spinal cord with damage to which of the following?

- a) Anterior horn cells
- b) Peripheral neuropathy
- c) Right half (right hemicord)
- d) Left half (left hemicord)

371. The commonest cause of bilateral brachial neuralgia is:

- a) Cervical spondylosis.
- b) Spinal tumor.
- c) Subacromial bursitis.
- d) Supraspinatus tendinitis.

372. An intervertebral disc is composed of:

- a) A central mass of loose connective tissue.
- b) A peripheral ring of tough fibrous tissue.
- c) Two plates of hyaline cartilage.
- d) All of the above.

373. In the treatment of kyphosis, spinal osteotomy is indicated only in:

- a) Ankylosing spondylitis.
- b) Senile kyphosis.
- c) Rommel's disease.
- d) Pott's disease.

374. Scoliosis may be complicated, by the following except:

- a) Back pain.
- b) Corpulmonale.
- c) Paraplegia.
- d) Empyema.

375. The most common primary tumor of the spine is:

- a) Multiple myeloma.
- b) Osteoclastoma.
- c) Fibrosarcoma.
- d) Bone sarcoma.

376. As the emergency department foundation 2nd year doctor on call, you are asked to perform a lumbar puncture. The mid-point at the level of the iliac crests is identified as your point of insertion of the puncture needle. Which intervertebral space does this represent?

- a) L₁/L₂
- b) L₂/L₃.
- c) L₃/L₄
- d) L₄/L₅

377. While explaining the procedure of a lumbar puncture to a junior colleague, you are asked about the layers through with the lumbar puncture needle must pass before reaching the area contain cerebrospinal fluid. After piercing the skin and subcutaneous tissues, which anatomical structure would be traversed next during a tap?

- a) Interspinous ligament
- b) Supraspinous ligament
- c) Ligamentum flavum
- d) Epidural space

Chapter VI: The Hand and Foot Surgery

- 1. The hand infection which carries the highest risk of osteomyelitis is:**
 - a) Intra-theal whitlow.
 - b) Web space infection.
 - c) Thenar space infection.
 - d) Distal pulp space infection (felon).
- 2. Most common infection of the hand is:**
 - a) Felon.
 - b) Palmar abscess.
 - c) Acute paronychia.
 - d) Web space infection.
- 3. Infection of the tendon sheath of the fifth finger tends to spread ready to the:**
 - a) Ulnar bursa.
 - b) Thenar space.
 - c) Fourth web space.
 - d) Midpalmar space.
- 4. In the hand, infection of the midpalmar space is most often due to:**
 - a) Deep punctured wounds of the palm.
 - b) Direct spread from intrathecal whitlows.
 - c) Local spread from ulnar bursa or thenar space.
 - d) Lymphatic spread from superficial infections.
- 5. Kanavel's sign is:**
 - a) Swelling above the flexor retinaculum.
 - b) Flexion of the thumb when the radial bursa is infected.
 - c) Flexion of the fingers in a compound palmar ganglion.
 - d) Tenderness over an infected ulnar bursa between the transverse palmar creases.
- 6. The space of Parona is:**
 - a) In the wrist between the deep flexor tendons and the pronator quadratus.
 - b) Above the patella between the quadriceps muscle and the femur.
 - c) Beneath the tendon of the iliopsoas.
 - d) Between the Achilles tendon and the posterior aspect of the tibia.
- 7. The frog hand is seen in:**
 - a) Deep palmar abscess.
 - b) Acute fulminating tenosynovitis.
 - c) Infection of proximal volar space.
 - d) None of the above.
- 8. In pulp space infection, all of the following are correct EXCEPT:**
 - a) Commonly caused by Staph Aureus.
 - b) Pus is trapped beside and under the nail.
 - c) May cause sequestrum of the terminal phalanx.
 - d) Drained by incision over the most tender point.

9. Sign of victory is suggestive of:

- a) Thenar space infection.
- b) Web space infection.
- c) Superficial mid palmar space infection.
- d) Deep mid palmar space infection.

10. The best site for incision of ulnar bursa abscess is:

- a) Lateral border of hypothenar eminence.
- b) Medial border of hypothenar eminence.
- c) Above the wrist.
- d) Any of the above.

11. Felon is:

- a) Mid palmar space infection.
- b) Terminal pulp space infection.
- c) Infection of ulnar bursa.
- d) Web space infection.

12. De Quervain Tenosynovitis presents with pain at the:

- a) Radial aspect of the wrist.
- b) Volar aspect of the wrist.
- c) Dorsal aspect of the wrist.
- d) Ulnar aspect of the wrist.

13. Stenosing tenosynovitis (trigger finger) is best treated initially by:

- a) Early surgery.
- b) Physiotherapy.
- c) Corticosteroid injection.
- d) None of the above.

14. Regarding Dupuytren's contracture all are true, EXCEPT:

- a) It is a contracture of the flexor tendons of the ring and little fingers.
- b) It is a contracture of the palmar fascia.
- c) It may occur in the plantar fascia.
- d) There is an association with cirrhosis of the liver

15. Acute shoulder pain with an onset after the third decade is most often due to:

- a) Pancoast's tumor.
- b) Bicipital tendonitis.
- c) Cervical spondylosis.
- d) Supraspinatus tendonitis.

16. Addison's test for the scalene syndrome is positive when:

- a) Pallor of the hand is noted.
- b) The radial pulse disappears.
- c) Numbness and tingling of the fingers occur.
- d) None of the above

17. Aetiology of diabetic foot infection include:

- a) Neuropathy
- b) Depressed immunity
- c) Glycosylation of tissues
- d) All of the above

18. Diabetic patients are more prone to develop foot ulcers. All of the following are important contributing causes, EXCEPT:

- a) Diabetic patients may have concomitant chronic ischemia.
- b) Diabetic foot deformities render the foot more susceptible to trauma
- c) Diabetic patients usually have peripheral neuropathy affecting their feet
- d) Diabetic patients have exaggerated inflammatory response to infection.

19. Regarding septic foot infection in diabetics (diabetic foot):

- a) Never occurs in association with ischemia.
- b) Proximal spread of infection to the leg usually occurs along the subcutaneous space (subdermally).
- c) Drainage through a small incision over the pointing area is enough in most patients and debridement should be avoided especially in presence of good vascularization to avoid excessive bleeding.
- d) The presence of osteomyelitis of small bones of the foot might be an indication for amputation.

20. A 56 years old diabetic female had foot infection. Her primary care doctor drained infection & gave her empirical broad spectrum antibiotic. On follow up she developed gangrene of her 2nd toe. The next important step in management of this patient is:

- a) Check the sensitivity of the organism to antibiotic according to culture.
- b) Check adequacy of foot perfusion by clinical or Doppler examination.
- c) Check diabetes control & improve local foot circulation by vasodilators.
- d) Prevent further extension of gangrene by urgent toe amputation.

21. Foot infection on diabetic patients is predominantly caused by:

- a) Anaerobic metabolism.
- b) Gram negative organisms.
- c) Gram positive organisms.
- d) Mixed organisms.

22. A diabetic patient with intact pedal pulse presented with a neuropathic sole ulcer with red granulating floor. There is no spreading inflammation. His temperature was 36.9°C. An antibiotic culture and sensitivity for the ulcer floor showed staph organism sensitive to first generation cephalosporin. The main line of management -beside control of diabetes and dressing is:

- a) Systemic antibiotic according to culture to eradicate surface infection.
- b) Anti-platelet and vasodilators to improve foot circulation.
- c) Avoid weight bearing and use special shoes.
- d) Prepare for skin graft as the ulcer is clean.

23. A diabetic patient, presented with gangrene of his little toe. On examination, he had mild infection at the line of demarcation and absent pedal pulse, the next step in this patient is:

- a) Lipid lowering drugs to arrest the progress of atherosclerosis.
- b) Toe amputation to prevent the spread of gangrene.
- c) Vasodilators to arrest the spread of gangrene.
- d) Angiography to plan revascularization.

24. The most common location for a ganglion cyst is:

- a) The dorsal wrist.
- b) Flexor tendon sheath.
- c) The volar wrist.
- d) Dorsal DIP joint.

25. The timing of surgery for congenital hand anomalies is:

- a) Immediately after birth.
- b) At the school age.
- c) Variable according to the type of the deformity and effect on the growth and function.
- d) Depending on the effect of the deformity on the growth.

26. In treatment of fingertip injuries; all the following are true, EXCEPT:

- a) In case of skin loss only, it can be covered by a split thickness graft.
- b) In case of fingertip amputations that expose the bone, split thickness remains the first choice to cover the defect.
- c) Advancement of two lateral triangles of skin and subcutaneous tissue is a common method for using a flap to cover the raw area.
- d) All the previous statements are true.

27. The amputated part should be:

- a) Kept in the refrigerator.
- b) Kept in wet gauze placed in ice bag.
- c) Kept in cold saline.
- d) Kept immersed in ice.

28. The most common benign bone tumor of the hand is:

- a) Lipoma.
- b) Fibroma sheath.
- c) Enchondroma.
- d) Giant cell tumor of the tendon.

29. Appropriate management of a paronychia includes:

- a) Needle puncture of the nail.
- b) Incision and drainage through the lateral nail plate.
- c) Elevation of the nail fold from the nail plate.
- d) None of the above.

30. Drainage of distal pulp space infection is done through:

- a) Bilateral incision of each side of the finger.
- b) Incise the nail fold.
- c) Transverse incision on the fingertip.
- d) Short longitudinal skin incision on area of maximum fluctuance not crossing the interphalangeal joint crease.

31. Do not wait for fluctuation of an abscess to drain EXCEPT:

- a) Distal pulp space infection of a finger.
- b) Parotid abscess.
- c) Subcutaneous abscess of forearm.
- d) Perinephric abscess.

CHAPTER VII: HEAD AND NECK SURGERY

1- Neurosurgery

Head Trauma

1. A 40-year-old male presented with low backache radiating to the left leg and foot of one-week duration. Examination revealed hyposthesia over the outer aspect of the leg, loss of the left ankle jerk and inability to raise the extended leg beyond 40°. He is probably suffering from:
 - a) Pott's disease of the lumbar spine.
 - b) Strain of the left sacrospinalis muscle.
 - c) Prolapsed fifth lumbar intervertebral disc.
 - d) Spinal cord tumor.
2. Increased ICT always lead to:
 - a) Ipsilateral pupillary dilatation and ipsilateral hemiplegia
 - b) Contralateral pupillary dilatation and contralateral hemiplegia
 - c) Ipsilateral pupillary dilatation and contralateral hemiplegia
 - d) Contralateral pupillary dilatation and Ipsilateral hemiplegia
3. As regards Lucid interval all are correct EXCEPT:
 - a) Is a period of recovery from coma of concussion before proceeding to coma of compression.
 - b) Is the result of rebleeding after return of blood pressure of its normal value.
 - c) Is a common feature in subdural hematoma.
 - d) Usually occurs with extradural hematoma
4. Primary brain injury differs from secondary type in that:
 - a) Primary cannot be prevented by emergency treatment
 - b) Secondary is the result of impaired tissue perfusion and/or tissue hypoxia
 - c) Primary is usually focal but may be diffuse
 - d) All of the above
5. The false statement about fractures of the base of the skull is that they:
 - a) Consist of fissures running through basal foramina and thin plates of bone.
 - b) Are rarely compound.
 - c) Carry grave risk of meningitis.
 - d) Are often associated with severe concussion.
6. The signs of fracture of the posterior cranial fossa include the following EXCEPT:
 - a) Deep coma.
 - b) Suboccipital hematoma.
 - c) Stiffness of the neck.
 - d) Injury to the twelfth cranial nerve.

- 7. The earliest manifestation of cerebral compression in closed head injuries is:**
- a) Deterioration of consciousness.
 - b) Hypertension and bradycardia.
 - c) Homolateral pupillary dilatation.
 - d) Cheyne-Stokes breathing.
 - e) Contralateral hemiparesis.
- 8. The emergency reduction of increased intracranial pressure is most rapidly accomplished by:**
- a) Furosemide.
 - b) Dexamethasone.
 - c) Hyperventilation.
 - d) Mannitol
- 9. In head injuries, the most helpful investigation is:**
- a) Plain X-ray of the skull.
 - b) Ventriculography.
 - c) Lumbar puncture.
 - d) CT scanning.
- 10. The incorrect statement about middle meningeal hemorrhage is that it:**
- a) Usually results from a blow on the side of the head.
 - b) Is rarely associated with fracture of the skull.
 - c) Arises most often from the anterior branch of the artery.
 - d) May be associated with a hematoma under the scalp.
 - e) Requires urgent operation.
- 11. Subaponeurotic hematoma of the scalp is characterized by the following features EXCEPT that it:**
- a) Collects in the loose areolar tissue under the aponeurosis.
 - b) May extend to the eyebrows anteriorly.
 - c) Never reaches the superior nuchal lines posteriorly.
 - d) Carries risk of intracranial extension of infection.
- 12. Which of the following statements about GCS is true?**
- a) The minimum score is 0.
 - b) A GCS of 10 means that the patient is in coma.
 - c) Eye opening to command/speech is scored as 2.
 - d) A GCS of 6 means that the patient is in coma.
- 13. A middle aged male presented for the first time in his life with worst occipital and neck acute pain:**
- a) Should be considered as meningitis until proved otherwise
 - b) should be considered as cervical disc until proved otherwise
 - c) Should be considered as subarachnoid hemorrhage from ruptured aneurysm until proved otherwise
 - d) Should be considered as muscle spasm until proved otherwise

14. In cases of compound depressed skull fractures

- a) Only physiotherapy is needed
- b) Repair should be done immediately
- c) No need for repair without neurological deficit
- d) Skin is sutured and repair done after an antibiotic course

15. all of the following are sources of extradural hematoma, EXCEPT:

- a) Vertebral artery
- b) Dural venous sinuses
- c) Middle meningeal artery
- d) Diploic bleeding from skull fracture

16. After RTA, a 45-year-old man arrives at the emergency department with incomprehensible responses to questions, eyes opening to pain only, and a flexor response to pain, what is this patient's Glasgow coma Scale (GCS)?

- a) 5.
- b) 6.
- c) 7.
- d) 8.

17. The indications for surgical interference in head injuries include the following, EXCEPT:

- a) Depressed fractures.
- b) Extradural hemorrhage
- c) Post-traumatic hydrocephalus.
- d) Persistent cerebrospinal rhinorrhea

18. The following statements about wounds of the scalp are true EXCEPT that they:

- a) Are rarely associated with severe bleeding.
- b) Have little tendency to sloughing.
- c) Should be thoroughly explored for any skull fracture.
- d) Should always be closed in two layers.

19. The "danger area" of the scalp is:

- a) The subcutaneous connective tissue.
- b) The epicranial aponeurosis.
- c) The sub-aponeurotic areolar tissue.
- d) The supraorbital region.

20. Concerning primary and secondary brain injury all are true EXCEPT:

- a) Corticosteroids are the first line of treatment for elevation of ICP
- b) Increase ICP contributes to secondary brain injury by reducing cerebral perfusion pressure producing cerebral ischemia
- c) Intracranial hypertension is one of the most important factors affecting outcome for brain injury
- d) In using the Glasgow coma scale, the lower the score, the poorer the neurologic status.

21. Which of the following statements is TRUE regarding skull fracture?

- a) Depressed fractures are those in which the patient's level of consciousness is diminished.
- b) Compound fractures are those in which the skull is fractured and the brain is lacerated.
- c) Any bone fragment displaced more than 1cm inward should be elevated surgically.
- d) Most skull fractures require surgical intervention.

22. Operative control of bleeding from wounds or incision of the scalp is best achieved by:

- a) Direct pressure applied to the skin
- b) Diathermy to bleeding vessels
- c) Eversion of the galea aponeurotica
- d) Apply several forceps to the bleeding points

23. Treatment of CSF rhinorrhoea is one of the following:

- a) Conservative
- b) IV mannitol / frusemide
- c) An immediate craniotomy and anterior fossa dural repair
- d) An immediate craniotomy and posterior fossa dural repair.

24. A 23 year old man after head trauma presents in the ER with bilateral bluish discoloration around his eyes (Raccoon eyes) together with disturbed level of consciousness and running nose. What is the diagnosis?

- a) Collecting hematoma around the eye
- b) Skull base fracture
- c) Compound fissure fracture of the skull vault
- d) Compound depressed fracture of the skull vault

25. Which of the following; is NOT part of Cushing's triad?

- a) Hypertension
- b) Irregular respirations
- c) Pinpoint pupils
- d) Bradycardia

26. In decorticate posturing, the patient's extremities:

- a) Withdraw to pain
- b) Flex in response to pain
- c) Extend in response to pain
- d) None of the above

Questions (28&29)

A 17 -year-old boy suffers a hyperextension injury of his neck when he jumps headfirst into a shallow pool. He does not lose consciousness. He arrives at the emergency department holding his neck stiffly and complaining of severe neck pain. He says the pain is particularly severe whenever he tries to move his head. He says he has no neurologic symptoms such as weakness, numbness, or paraesthesia. On physical examination, he is found to have no areas of ecchymosis or deformity on the cervical spine. He has exquisite pain on deep palpation of the bony prominence of the mid cervical spine. There are no neurological signs. Routine plain radiographs (anteroposterior [AP], lateral, open-mouth view) of the cervical spine in the neutral position show no fracture or subluxation of the bony elements. There is, however, thickening of the pretracheal space ventral to the body of C₆, suggesting soft tissue swelling.

27. What would the next step in management involve?

- a. Analgesics alone
- b. Burr holes and traction
- c. A hard cervical collar
- d. Internal fixation of the cervical vertebra

28. What would be the most appropriate radiologic examination?

- a. Plain lateral radiographs in flexion and extension to rule out occult ligamentous tear and instability of the cervical spine
- b. A CT scan of the cervical spine to rule out the possibility of a bony fracture not seen on plain radiographs
- c. Lateral tomogram of the cervical spine to rule out the possibility of an occult fracture
- d. Ultrasound of the neck

Questions (30&31)

A 58-year-old woman is admitted from the emergency department with a history of approximately 2 weeks of headache. She has a history of breast cancer. Her headache is severe, particularly in the mornings when she wakes up. It is accompanied by occasional vomiting. She says she experiences no focal weakness, numbness, or paraesthesia. On physical examination, she is found to have a mild weakness of her left arm. An MRI of the brain with intravenous contrast reveals the presence of a neoplasm in the right motor cortex that is considered responsible for her weakness.

29. If the MRI shows multiple brain metastasis, what should be the treatment required in addition to corticosteroids?

- a) Whole-brain radiotherapy
- b) Craniotomy to resect the lesion responsible for her left arm weakness
- c) Placement of an Ommaya reservoir for use in treatment by intrathecal chemotherapy
- d) No further treatment

30. If the MRI shows a single brain metastasis, what should be the next step in management?

- a) Whole-brain radiotherapy
- b) Craniotomy to resect the lesion responsible for her left arm weakness
- c) Placement of an Ommaya reservoir for use in treatment by intrathecal chemotherapy
- d) No further treatment

31. Spinal concussion is characterized by the following features EXCEPT:

- a) Immediate onset after spinal cord injury.
- b) Masking the effects of any organic cord damage.
- c) Loss of all reflexes except the anal and bulbo-cavernosus reflexes.
- d) Recovery within 48 hours.

32. About intracranial pressure (ICP), all the following are true, EXCEPT:

- a) A rise in ICP in a trauma victim is indicated by diminishing Glasgow Coma Scale.
- b) A rise in ICP in a trauma victim is an indication for urgent surgery.
- c) Ensuring adequate oxygenation can reduce a high ICP.
- d) ICP can be monitored by introducing a catheter/transducer through a burr hole.

33. An 85-year-old pensioner is brought to the emergency department by her family who are concerned that she has become increasingly confused and drowsy in the past 3 weeks. She is pleasantly confused and unable to recall events clearly but oriented to time and person and complains only of occasional frontal headache. Her family informs you that she may have fallen while climbing from the bathtub some weeks previously. She has also started sleeping for long periods of time, which is not her normal habit. A head CT scan is performed, which shows mild generalized atrophy and a crescent shaped collection. This presentation is consistent with:

- a) Intracerebral hemorrhage
- b) Subdural hemorrhage
- c) Extradural hemorrhage
- d) Subarachnoid hemorrhage

34. Through which of the following basal skull foramina does the mandibular branch of the trigeminal nerve pass?

- a) Foramen lacerum
- b) Foramen rotundum
- c) Foramen spinosum
- d) Foramen ovale

Hydrocephalus

35. The most valuable diagnostic method in hydrocephalus is:

- a) Plain X-ray examination.
- b) CT scanning.
- c) Examination of CSF.
- d) Ventriculography.

36. All of the following causes raised intra cranial pressure Except:

- a) Hypoxia.
- b) Fever.
- c) Hypernatremia.
- d) Hypercapnea.

37. What is normal cerebral blood flow?

- a) 10 ml /100 g per min.
- b) 25 ml /100 g per min.
- c) 55 ml /100 g per min.
- d) 100 ml /100 g per min.

38. The maximum level of intracranial pressure (ICP) that is considered normal is:

- a) 6 mmHg
- b) 10 mmHg
- c) 14 mmHg
- d) 18 mmHg

39. A baby is born with a 2.5x2cm myelomeningocele in the mid to lower lumbar region. Just hours after birth, he is rushed to the operating room (OR) for repair of this defect. Approximately 48 hours later, the baby is doing well, but it is noted that his head circumference has increased by 2 cm. On examination, the fontanelle is found to be slightly bulging and tense. On neurologic examination, the baby is awake but is found to have no spontaneous sensory or motor function below approximately the L3 dermatome. An ultrasound of the brain is obtained through the open fontanelle. This study shows an enlarged ventricular system, consistent with the presence of hydrocephalus. What is the related abnormality responsible for the hydrocephalus?

- a) Stenosis of the aqueduct of Sylvius
- b) Amelia (failure of limbs to develop)
- c) Arnold-Chiari malformation
- d) Nasopharyngeal hamartoma

40. A 23-year-old woman complains of progressive loss of vision and papilledema. Investigations show normal findings on CT scan. A lumbar puncture shows marked elevation of pressure. What is the most likely diagnosis?

- a) Retinoblastoma
- b) Pseudo-tumor-cerebri
- c) Corpus cavernous thrombosis
- d) Cavernous sinus thrombosis

41. Regarding Cerebrospinal fluid all are true EXCEPT:

- a) Normally has a lower protein content than plasma.
- b) Flows between the third and fourth ventricles via the foramen of Monro
- c) Is produced at a rate of 0.5 ml/h.
- d) Is absorbed by the arachnoid granulations

42. Froin's syndrome consists of the following features EXCEPT:

- a) High intra-spinal pressure.
- b) Spontaneous coagulation.
- c) Increased protein content.
- d) Yellow coloration of the CSF (Xanthochromia).

43. The causes of internal hydrocephalus do not include:

- a) Arnold-Chiari malformation.
- b) Congenital stenosis of the aqueduct of Sylvius.
- c) Excessive secretion of CSF by the choroid plexuses.
- d) Basal adhesions due to subarachnoid hemorrhage, meningitis or sarcoidosis.

44. All of the following can be used to treat elevated intracranial pressure EXCEPT:

- a) Elevate the head of the bed
- b) Place a ventricular catheter
- c) Mannitol bolus IV
- d) Glutamate antagonists

Brain Tumors

45. The incorrect statement about acoustic neuroma is that it:

- a) May be bilateral and associated with "cafe-au-lait" patches.
- b) Grows slowly in the cerebellopontine angle.
- c) Involves the eighth nerve only.
- d) May cause cerebral and pyramidal signs.

46. All of the following are true about astrocytomas EXCEPT:

- a) They are gliomas.
- b) They can present with seizures.
- c) The cell of origin is the oligodendrocyte.
- d) They are radiosensitive.

47. All of the following are true about meningiomas EXCEPT:

- a) They are usually benign.
- b) 80% are supra-tentorial.
- c) They can cause cytotoxic brain edema.
- d) The 10-year recurrence rate after complete excision is 10%.

48. The most common malignant tumor of the brain in children is:

- a) Ganglioneuroma
- b) Medulloblastoma
- c) Neuroblastoma
- d) Glioblastoma multiforme

49. The most common tumor of peripheral nerves is:

- a) Neurofibroma
- b) Schwannoma
- c) Neuroepithelioma
- d) Nerve sheath sarcoma

50. Temporal lesions most commonly cause which of the following forms of brain herniation?

- a) Subfalcine herniation
- b) Central transtentorial herniation
- c) Uncal herniation
- d) Tonsillar herniation

51. Features of neuroblastoma includes all of the following EXCEPT:

- a) Main presentation is abdominal swelling
- b) Arises from adrenal cortex
- c) Metastasize by lymphatic and blood
- d) Wilm's tumor is an important differential diagnosis

52. All of the following are diagnostic tests to confirm brain death EXCEPT:

- a) Fixed pupil not reacting to light.
- b) Absent vestibulo-ocular reflex.
- c) Absence of corneal reflex.
- d) Absent spinal reflexes.

- 53. A 17-year-old male presents with 3-month history of headache, weight gain, decreased concentration, polyuria, and polydipsia. His headaches are mostly in morning and involve the frontal region. On examination he was found to have bitemporal visual field defect and no facial hair. MRI brain revealed a suprasellar partially calcified cystic lesion with displacement of optic chiasma. The most likely pathology is:**
- a) Craniopharyngioma
 - b) Pituitary macroadenoma
 - c) Testicular metastasis
 - d) Glioblastoma multiforme
- 54. He underwent a craniotomy for resection of his lesion. Twelve hours postoperatively, he developed diuresis of over 500 mL/h. The diagnosis of diabetes insipidus (DI) was entertained. What laboratory findings are most consistent with the clinical impression?**
- a) Serum sodium of less than 135
 - b) Decreased both serum and urine osmolality
 - c) Increased serum osmolality and decreased urine osmolality
 - d) Increased both serum and urine osmolality
- 55. In intracranial tumors, the signs of threatened cone formation include the following EXCEPT:**
- a) Violent headache.
 - b) Unilateral contraction of the pupil.
 - c) Stiffness of the neck.
 - d) Slow pulse.
- 56. The signs of non-functioning intra-sellar tumors include the following EXCEPT:**
- a) Severe headache.
 - b) Hypopituitarism due to compression of secretory cells.
 - c) Bitemporal hemianopia with primary optic atrophy
 - d) Saucerization of the sella in radiographs of the skull.
- 57. A 64-year-old man presents with headache and left-sided upper extremity weakness. The MRI findings suggest that this is a glioblastoma multiforme. This is because the tumor exhibits which of the following?**
- a) It is regular in shape.
 - b) It is well demarcated from surrounding brain tissue.
 - c) It shows a ring pattern of enhancement with intravenous contrast and has a non-enhancing necrotic center.
 - d) It shows an absence of surrounding white-matter edema.

58. A 69-year-old well controlled, hypertensive man was seen in ER with 3 months history of mild headache and sudden onset of hemiparesis. On examination, he exhibits mild dysphasia and lethargy. His cognitive function testing indicates moderate diminution of his recent memory and executive function. His hemiparesis is denser in arm and leg and is mild in his face. CT scan without contrast demonstrates a 3-cm irregular hemorrhage surrounded by marked edema and mass effect in frontal-temporal region. The most likely cause of bleed is?

- | | |
|----------------------------|---------------------------------|
| a) Amyloid angiopathy | c) Hemorrhagic neoplasm |
| b) Hypertensive hemorrhage | d) Arterial-venous malformation |

59. What is the next diagnostic test that should be ordered?

- | | |
|-------------------------|-------------------------|
| a) EEG | c) Transcranial-doppler |
| b) Cerebral angiography | d) MRI with contrast |

60. All of the following are secreted by the adenohypophysis, EXCEPT:

- | | |
|---------------------------------|--------------|
| a) Follicle-stimulating hormone | c) Oxytocin |
| b) Growth hormone | d) Prolactin |

61. A 28-year-old solicitor presents to the neurosurgery clinic with a 1-year history of increasing tiredness, sweatiness, difficulty concentrating and pain and numbness in his hands at night. Further questioning reveals that his shoes have become tight in the past year, while examination reveals moderate hypertension, a protruding jaw and slightly coarse features. The admitting clinician suspects a growth-hormone-secreting pituitary tumour and requests several tests to confirm this diagnosis. Which one of the following tests is most appropriate to investigate this condition?

- a) Dexamethasone suppression test
- b) Glucose tolerance test
- c) Short Synacthen test
- d) Fasting blood glucose

62. A 62-year-old cleaner presents with multiple episodes of uncontrolled right arm jerking, unsteadiness while walking, and difficulty seeing objects to one side and occasional headaches over the past several weeks. She is otherwise fit and well without any significant past medical history. Examination reveals increased lower limb tone, reduced power in the legs and papilloedema on fundoscopy. In addition, there appears to be a bony protuberance overlying the right parietal bone. A head CT scan with contrast is performed which shows a dense, homogeneous lesion in the right parasagittal area. This lesion is likely to represent what type of cranial tumor?

- | | |
|----------------|----------------------|
| a) Meningioma | c) Craniopharyngioma |
| b) Astrocytoma | d) Medulloblastoma. |

Brain Abscess

63. Which of the following is true about cerebral abscesses?

- a) They can be caused by direct spread of infection from an air sinus.
- b) They are a recognized complication of bacterial endocarditis.
- c) There is increased incidence in patients with congenital cyanotic heart diseases.
- d) All of the above.

64. Regarding the dangerous area of the face, all of the following are true EXCEPT:

- a) The outer canthus forms one of its boundaries.
- b) The main risk is cavernous vein thrombosis.
- c) The angular vein communicates with the ophthalmic veins.
- d) The anterior facial vein communicates through the pterygoid venous plexus which communicates with the cavernous sinus by an emissary vein that enters the skull through the foramen rotundum.

65. A 72-year-old woman presents with a throbbing headache of 1 week's duration. Further questioning reveals increasing difficulty in combing her hair, which causes pain over the scalp and jaw pain while eating. She is known to suffer from muscle aches and was diagnosed with polymyalgia rheumatica approximately 1 year ago. Physical examination reveals little else of note. The admitting physician suspects' giant cell (temporal) arteritis and requests a full blood screen and temporal artery biopsy. An increase in which one of the following blood markers would be diagnostic of this condition?

- a) Neutrophil count
- b) Erythrocyte sedimentation rate
- c) C-reactive protein
- d) Bradykinin

Miscellaneous

66. Which of the following statements regarding scalp injuries is TRUE?

- a) The blood supply to the scalp lies between the periosteum and the galea.
- b) Most scalp laceration hemorrhages can be controlled by applying direct pressure.
- c) Subgaleal hematomas must be drained to avoid abscess formation and extensive scalp elevation.
- d) If a scalp laceration extends below the zygoma, facial weakness may result from damage to the ipsilateral trigeminal nerve.

67. Which of the following statements regarding hydrocephalus is the most accurate?

- a) It represents a primary process in up to two thirds of patients.
- b) It is classified as communicating or non-communicating, depending on where the obstruction to cerebrospinal fluid (CSF) flow occurs.
- c) With proper, timely shunting, patients with hydrocephalus usually have intelligence equal to that of matched control groups without hydrocephalus.
- d) Clinical signs of hydrocephalus are manifested the same ways in all age groups.

68. Which of the following statements regarding ICP monitoring is false?

- a) Ventricular pressure catheters are the reference standard for ICP monitoring.
- b) ICP monitoring should be performed in salvageable patients with a Glasgow Coma Scale (GCS) score of 3 to 8 after resuscitation and an abnormal finding on head CT.
- c) Risk factors for elevated ICP after head injury include age younger than 40 years, open basal cisterns on CT, and systolic blood pressure higher than 90 mmHg.
- d) ICP can be measured with either an intraparenchymal or ventriculostomy monitor.

69. Which of the following is true regarding neurogenic shock?

- a) First-line therapy consists of repetitive fluid boluses with crystalloids.
- b) Pure α -adrenergic sympathomimetics are the vasopressor drugs of choice.
- c) Tachycardia and hypotension are pathognomonic signs of neurogenic shock.
- d) Dopamine is the preferred vasopressor agent.

70. Which of the following is true regarding cervical trauma?

- a) Most mortality in cervical trauma is not the direct result of neural compression.
- b) In a neurologically intact patient with neck pain, the cervical spine can be cleared immediately with normal findings on plain cervical radiographs.
- c) Methylprednisolone should be started immediately in any trauma patient suspected of having cervical trauma, regardless of the findings on neurologic examination or the time of injury.
- d) None of the above

71. Which of the following statements regarding traumatic CSF leaks is FALSE?

- a) Most are caused by basilar skull fractures and close spontaneously.
- b) The risk for infection is greater with rhinorrhea than with otorrhea.
- c) They may be observed for up to 14 days if there is no evidence of infection.
- d) The presence of a traumatic CSF leak mandates the use of prophylactic broad-spectrum antibiotic coverage.

72. Which of the following statements regarding brain injury is FALSE?

- a) The extent of brain injury is a function of the mechanism of injury.
- b) Contusions tend to involve the anterior portions of the frontal and temporal lobes.
- c) Diffuse axonal injury (DAI) is usually an incidental and asymptomatic finding.
- d) The effects of secondary edema and hematoma enlargement may be delayed for several days.

73. Which of the following is true regarding brain death?

- a) Once the patient demonstrates no functional neurologic findings, including loss of all cranial nerves and reflexes, brain death can be pronounced.
- b) If toxicology studies show the presence of opiates in blood or urine, brain death may still be pronounced if all other criteria are met and if the opiates were given in known low concentrations.
- c) If while performing a brain death examination the patient becomes cardiovascularly unstable, the examiner should finish quickly to pronounce brain death without delay.
- d) Confirmation with electroencephalography (EEG) is not required to pronounce brain death.

74. Which statement is true regarding elevated ICP and brain herniation syndromes?

- a) After the pupils become fixed and dilated, no functional recovery is possible.
- b) Cortical sulci effacement may not be observed in the setting of increased posterior fossa pressure from a cerebellar hematoma.
- c) In a patient with a unilateral supratentorial mass and increased ICP, weakness will always be observed on the contralateral side of the body.
- d) Compression of the oculomotor nerve during brain herniation causes pupillary constriction.

75. Which of the following is true regarding the management of elevated ICP?

- a) Hemicraniectomy is first-line therapy for elevated ICP.
- b) Hypertonic saline is superior to mannitol for osmotherapy.
- c) Prolonged hyperventilation is a benign method for lowering elevated ICP.
- d) Maintenance of elevated cerebral perfusion pressure (CPP) may be more important in improved neurologic outcome at the expense of high ICP.

76. Which of the following statements regarding the evaluation and care of head-injured patients is the most accurate?

- a) Decerebrate posturing is a common response to diffuse cortical injury.
- b) A score of 5 on the GCS is associated with a poor prognosis.
- c) The syndrome of inappropriate antidiuretic hormone secretion (SIADH) should be suspected when the serum sodium level exceeds 150 mEq/L.
- d) Brain injury takes predominance over any other injury, and therefore initial evaluation and management should focus only on the neurologic examination.

77. Which of the following statements regarding cerebral edema caused by head injury is the most accurate?

- a) CT should be performed to exclude the diagnosis of intracranial hemorrhage or a mass lesion before starting therapy.
- b) Cerebral edema caused by head injury is vasogenic and not cytotoxic in origin.
- c) Steroids are useful for the treatment of head trauma.
- d) Hypercapnia induces cerebral vasoconstriction and is useful for decreasing intracerebral blood volume.

78. Which of the following statements regarding subarachnoid hemorrhage (SAH) is the most accurate?

- a) Normal findings on CT of the brain exclude the possibility of SAH.
- b) Surgical or endovascular treatment is recommended for patients who are neurologically intact and have an uncomplicated aneurysmal SAH.
- c) The use of hypertension, hypervolemia, hemodilution (triple-H therapy), and calcium channel blockers is contraindicated for the treatment of vasospasm.
- d) Aneurysms are the most common cause of SAH.

79. Which of the following statements regarding subdural hematomas (SDHs) is FALSE?

- a) Acute SDHs are generally unilateral and have a poorer prognosis than chronic SDHs do.
- b) Adequate treatment of an acute SDH usually consists of drainage through bur holes.
- c) Chronic SDHs should be suspected in elderly patients with progressive changes in mental status, even without a definite history of trauma.
- d) SDHs carry a worse prognosis than do epidural hematomas (EDHs).

80. Which of the following statements regarding peripheral nerve injuries is FALSE?

- a) Neurapraxic injury does not require surgical resection of the nerve root involved to eliminate pain.
- b) Axonal regeneration progresses at a rate of 1 mm/day after a 10- to 20-day lag period.
- c) Denervation atrophy of muscles becomes irreversible after 12 to 15 months.
- d) Restoration of sensory loss is not possible after muscle atrophy secondary to denervation is complete.

81. Which of the following is false regarding brain and spine tumors?

- a) Most intracranial tumors are benign.
- b) Spinal cord ependymomas are the most common primary adult spinal cord tumors and are commonly found in the cervical cord.
- c) Meningiomas arise from the arachnoid layer of the brain, as opposed to the brain tissue itself.
- d) Glioblastoma multiforme (GBM) is the most common primary brain tumor and carries the worst prognosis.

82. Regarding spinal cord injury, which of the following incorrectly describes the syndrome listed?

- a) In anterior spinal artery syndrome, bilateral loss of motor and pain sensation occurs with preservation of position and vibratory sensation.
- b) In central cord syndrome, bilateral motor and pain sensation is lost, worse in the lower extremities than the upper extremities and worse in the proximal ends of extremities than in the distal ends of extremities. (central cord syndrome= syringomyelia)
- c) In Brown-Sequard syndrome, ipsilateral motor and position sensation is lost along with contralateral pain and temperature sensation.
- d) In cauda equina syndrome, unilateral or bilateral loss of motor and sensory function occurs in the distribution of multiple nerve roots, including bladder areflexia and stool incontinence.

83. Which of the following statements regarding brain abscesses is FALSE?

- a) The brain is resistant to infection despite its high glucose content.
- b) The brain is extremely effective in walling off infections.
- c) Brain abscesses are classified as acute, subacute, and chronic.
- d) Prompt drainage is indicated for all types of brain abscesses.

84. A 30-year-old man is involved in a fight. He is punched and falls to the ground, striking his head. He is briefly knocked out but recovers quickly. In A&E he is GCS 15. He has blood and clear fluid leaking from his right ear. Examination shows a Battle's sign. Choose the correct diagnosis

- a) Extradural hematoma
- b) Subdural hematoma
- c) Petrous temporal skull fracture
- d) Brain abscess.

85. A 43-year-old man experiences lower back pain after lifting a heavy object off the ground. The following morning, he notices that the pain has begun to radiate down the posterolateral aspect of the right leg and across the top of the foot to the big toe. The pain is severe, electric in quality, associated with paresthesia over the same distribution, and made worse by coughing. On examination, it is found that he has an area of diminished sensation to pinprick over the dorsum of the right foot and mild weakness in his right extensor hallucis longus muscle. The deep tendon reflexes are all intact. What is the most likely diagnosis?

- a) Lumbar spinal fracture with compression of the cauda equina
- b) Herniated lumbar disk on the right at the level of L₄-L₅
- c) Herniated lumbar disk on the left at the level of L₄-L₅
- d) Herniated lumbar disk on the right at the level of S₁-S₂

- 86. A 48-year-old woman has a lower back pain and hypoesthesia in the left 51 dermatomal distribution (left calf and lateral left foot). What is the most likely cause?**
- a) A lesion at the right L₄-L₅ interspace
 - b) Pathology where the nerve exits the spinal canal immediately above the pedicle of S₃ vertebra
 - c) A herniated nucleus pulposus
 - d) Compression by the LS lamina
- 87. A 35-year-old secretary complains of severe pain in the neck that radiates down the right arm. The pain is electric in quality and affects specifically the radial aspect of the right forearm and the thumb. She also describes numbness and paresthesia over the same distribution. On physical examination, she is found to have an area of diminished sensation to pinprick over the right wrist and thumb. The right biceps tendon reflex is diminished, but there is no loss of muscle strength. She has right C5-C6 disk compression and radiculopathy affecting which of the following?**
- a) The right C₄ root
 - b) The right C₆ root
 - c) The right C₄ mixed spinal nerve
 - d) The right C₄ anterior primary rami
- 88. A 73-year-old man presents for evaluation of weakness in his lower extremities and recurrent falls. On further questioning, the patient admits to having frequent spasms affecting both of his lower extremities. He also claims that his legs occasionally feel as if ants were crawling all over them. On neurological examination, he is found to have a slightly unstable gait and with minimal flexion of the knees. His strength is slightly but symmetrically diminished in both lower extremities and both triceps muscles. There is decreased sensation to vibration and light touch below approximately the level of the nipples bilaterally. In both lower extremities, muscle tone is markedly increased, and deep tendon reflexes are hyperactive. Babinski's reflex is present bilaterally. What is the most likely diagnosis?**
- a) A thoracic spinal cord compression
 - b) A thoracic radiculopathy
 - c) Intracranial aneurysm
 - d) A cervical myelopathy

- 89. A 33-year-old man is brought to the emergency department after being involved in a major motor vehicle accident. He is unable to move his legs and complains of severe pain in his mid to lower back. On physical examination, he is found to have exquisite tenderness over some of the bony prominence of his lower back, but no gross physical deformity can be appreciated. On neurologic examination, flaccid paralysis of both lower extremities and complete anesthesia to all sensory modalities below approximately the L3 dermatome are noted. Catheterization of his bladder yields approximately 700 mL of urine. Plain radiographs of the spine reveal compression fracture in the body of L3 with greater than 50% of loss in its height. A computed tomography (CT) scan through this area reveals a burst fracture of the body of L3. There are large fragments of bone driven dorsally with an 80% canal compromise. What is the cause of weakness?**
- a) Compression of the conus-medullaris
 - b) Compression of the cauda equina
 - c) Compression of the spinal cord at the level of L3
 - d) Rupture of the anterior spinal ligament.
- 90. A 57 -year-old woman presents to the emergency department with new-onset seizures. She was witnessed by her husband to have a generalized seizure lasting approximately 1 minute. She has smoked 1 pack of cigarettes a day for over 40 years. In the past 3 months, she has lost 12 kg in weight. On examination, she appears thin and nervous but findings on her neurologic examination are otherwise essentially within normal limits. Plain radiographs of the chest obtained in the emergency department show a 4-cm nodule in the upper lobe of her right lung. To exclude cerebral metastasis as a cause of her seizure, what should the next test requested be?**
- a) An electroencephalogram (EEG)
 - b) A CT scan of the brain with intravenous contrast
 - c) A spinal tap to measure opening pressure and obtain CSF for cytology
 - d) An MRI of the brain with intravenous contrast
- 91. A 63-year-old woman presents for workup to determine the reason for a gradual hearing loss over approximately 5 years and intermittent tinnitus over the last several months. Findings on physical and neurologic examination are entirely within normal limits, except for the presence of sensorineural hearing loss in the left ear. She has no cranial nerve deficits. An MRI of the brain with gadolinium reveals the presence of an extra-axial tumor in the region of the left cerebella-pontine angle. What is the most likely diagnosis?**
- a) Epidermoid tumor (cholesteatoma)
 - b) Acoustic neuroma
 - c) Glomus tumor
 - d) Meningioma

Questions (125&126)

A 4-year-old boy is brought to the emergency department with the complaint of approximately 2 weeks of headache and vomiting. He was seen in the emergency department 1 week earlier with the same complaints. At that time, his parents were told that the probable cause was a gastrointestinal virus, and the boy was sent home. His symptoms have not improved. On general examination, the child appears somewhat dehydrated and has a dry mouth and sunken eyes. His examination findings are also remarkable for the presence of bilateral papilledema and marked nystagmus. An MRI with intravenous contrast is obtained that reveals the presence of a 2-cm mass in the posterior fossa. The mass is entirely within the fourth ventricle and appears to be arising from the vermis of the cerebellum. It enhances uniformly with contrast. The lateral and third ventricles are moderately dilated with hydrocephalus.

92. What is the most likely diagnosis?

- | | |
|---------------------|----------------------|
| a) Acoustic neuroma | c) Craniopharyngioma |
| b) Brain metastasis | d) Medulloblastoma |

93. If at craniotomy the tumor found is not that listed in Q125 and the pathologist reports that it is a benign lesion, what is that lesion?

- | | |
|---------------|---|
| a) Ependymoma | c) Choroid plexus papilloma |
| b) Teratoma | d) Polycystic (cystic) cerebellar astrocytoma |

94. A 35-year-old man is brought to the hospital unconscious after being resuscitated in an ambulance from the site of a motor vehicle accident. No other history or information is available. On general inspection, he is found to have multiple bruises over his body and has a massively swollen left thigh. His vital signs are stable with a heart rate of 100 beats per minute (bpm) and a blood pressure of 150/75 mmHg. He is obtunded and does not follow commands or open his eyes. He withdraws his left arm and leg from painful stimuli, but not his right. His left pupil is 3 mm in diameter, and it is sluggishly reactive to light, while his right is 5 mm in diameter and fixed. Corneal reflexes are present bilaterally. His pulse rate is now 120 bpm and respiration rate is 40 breaths per minute. To avoid injury to his spinal cord by an unstable cervical spine, an order is issued to not perform testing of his doll's eye reflex. Intracranial hemorrhage causing increased intracranial pressure (ICP) is suspected, along with a right uncal herniation. What is the next step in management?

- | |
|--|
| a) Intubation of his airway for hyperventilation and administration of intravenous mannitol |
| b) Immediate CT scanning of the brain to confirm the presence of the suspected intracranial hemorrhage |
| c) Intubation of his airway for hyperventilation and intravenous administration of corticosteroids |
| d) Immediately evacuation of the suspected intracranial hematoma |

- 95. In the management of a 64-year-old woman struck by a car, mannitol is given to do which of the following?**
- a) Increase CSF formation
 - b) Increase the respiratory rate
 - c) Lower raised ICP
 - d) Increase the pulse rate
- 96. A 17-year-old boy is brought to the emergency department after he was assaulted. Witnesses claim that he was hit on the head with a lead pipe, after which he was unconscious for several minutes. No seizure activity was witnessed. On arrival, he complains of a headache, particularly severe at the point where he was hit in the right frontoparietal region. On examination, he is found to have swelling and ecchymosis over this region. He is awake, alert, and fully oriented. A complete neurologic examination reveals no deficit. Plain radiographs of the skull show a linear, non-depressed skull fracture in the frontoparietal skull that crosses the groove of the medial meningeal artery. During the following hour, he becomes sleepier and begins to vomit. A repeat neurologic examination at that time reveals him to be lethargic but without weakness, numbness, paresthesia, or other focal deficit. What is the most likely cause of the neurologic deterioration?**
- a) Diffuse axonal injury (DAI)
 - b) Epidural hematoma
 - c) Todd's phenomenon
 - d) Trigeminal ganglion hematoma
- 97. A 43-year-old man presents to the emergency department after falling down a flight of stairs and landing on his head. He did not lose consciousness. He complains of severe headache, marked decreased acuity in hearing in the left ear, and a "runny nose" since the fall. On physical examination, he is found to have a left-sided Battle's sign (an ecchymosis in the area of the left mastoid process) and hemotympanum. He has a constant dripping of a clear, watery fluid through his nose. Findings on his neurologic examination, other than the hearing loss, are completely normal. X-ray studies will reveal which of the following?**
- a) A fracture of the cribriform plate with a CSF leak into the paranasal sinuses
 - b) A skull-base fracture with a mucocoele
 - c) A temporal bone fracture with paradoxical rhinorrhea
 - d) Fracture of the maxillary antrum and greater wing of the sphenoid.
- 98. A 52-year-old painter injured his lower back 3 weeks ago when he fell off a ladder. He presents for evaluation of abnormal findings on plain radiographs of his lumbar spine. His pain has subsided, and he is now asymptomatic. Physical examination reveals a dense tuft of hair in his lumbosacral region that has been present for as long as he can remember. There is no tenderness or palpable abnormality in his spine. What is the diagnosis?**
- a) Spina bifida
 - b) An L₅-S₁ spondylolisthesis
 - c) A burst fracture of L₅ and S₁
 - d) Fracture of the vertebral bodies and nucleus pulposus.

99. During a regular visit to the pediatrician 1 week after birth, an infant's size and head circumference are recorded as being in the seventy-fifth percentile. Repeat measurement 1 month later still shows the size of the baby at the seventy-fifth percentile, but the baby's head circumference is now at the ninety-fifth percentile. The pediatrician notices that the baby's anterior fontanelle is tense and that the skull sutures are open. He obtains an MRI of the brain with intravenous contrast. This study shows the presence of greatly dilated lateral and third ventricles. The aqueduct of Sylvius cannot be easily visualized. The fourth ventricle is small. There are no lesions within the subarachnoid space or cerebral parenchyma. The appearance of the MRI is consistent with which of the following?
- a) Non-communicating hydrocephalus
 - b) Communicating hydrocephalus
 - c) Normal-pressure hydrocephalus
 - d) Anencephalus
100. A 15-year-old boy complains of right-sided weakness and gait impairment. ACT scan shows a large, non-enhancing cyst in the posterior cranial fossa, with an enhancing tumor nodule in the left cerebellum. What is the most likely diagnosis?
- a) An arachnoid cyst
 - b) Glioblastoma multiforme
 - c) A cystic astrocytoma
 - d) Rathke's cleft cyst
101. A 56-year-old woman presents with a history of several months of pain involving both hands. She describes the pain as electric and severe. It is localized to the palmar aspect of the first three digits of each hand and associated with numbness. The pain is particularly severe in the morning when she wakes up. She reports no weakness of the hands, but she says that sometimes objects fall off her hand because she cannot feel them. Physical examination reveals atrophy and weakness in the muscles of the thenar eminence bilaterally. She also has numbness in the distribution of the median nerve within the hands. Phalen test is positive. Which is the best test to confirm the clinical diagnosis?
- a) An MRI of the hand to visualize an enlarged carpal ligament
 - b) An EMG and nerve-conduction study
 - c) MRI of the cervical spine to rule out radiculopathy
 - d) An x-ray of the hand

Questions (104 & 105)

A 54-year-old-man comes to the emergency department complaining of a severe headache for several hours. He describes this headache as the worst of his life. It started suddenly "like a firecracker had gone off" inside his head. He has had no loss of consciousness but has had several episodes of vomiting. General physical examination reveals a patient who is in severe distress due to the headache. His blood pressure is 180/70 mm Hg, and his pulse racing at 120 bpm. He is afebrile. He has photophobia and gross neck rigidity. Neurologically, he is fully alert and oriented. He has a normal motor and sensory examination. His left pupil is 2 mm and briskly reactive to light; his right is 4.5 mm and fixed to both light and accommodation.

102. What is the most likely diagnosis?

- a) Acute bacterial meningitis
- b) Incipient Uncal herniation due to an expanding lesion in the right temporal lobe
- c) Acute SAH from an anterior communicating artery aneurysm
- d) Acute SAH from a right posterior communicating aneurysm
- e) Cavernous sinus thrombosis

103. What is the most appropriate test to establish the diagnosis?

- a) MRI of the brain with and without gadolinium
- b) CT scan of the brain without contrast
- c) An electroencephalogram
- d) Optometry

104. After right radical mastectomy under general anesthesia, an elderly female developed a complete claw hand with loss of sensation along the medial side of the forearm and hand. Examination revealed paralysis of the flexors of the wrist and fingers and of the intrinsic muscles of the hand. The cause proved to be a traction injury of:

- | | |
|------------------|------------------|
| a) Medial cord. | c) Lower trunk. |
| b) Lateral cord. | d) Middle trunk. |

105. A 29-year-old nurse is referred to the neurology outpatient clinic with a 6-month history of intermittent upper limb jerking, in which a digit on the left hand jerks initially, extending to the hand, arm and eventually the face. She reports being aware of these movements and feeling weak in the same arm for several hours after. This type of seizure could be described as being:

- a) Jacksonian
- b) Absence (petit mal)
- c) Temporal lobe
- d) Status epilepticus.

106. A 21-year-old male medical student presents with a 14-day history of intermittent fever, rigors, headache, neck stiffness and a single episode of vomiting just prior to attending his appointment. On questioning he admits to a visit to rural east Africa 2 months ago as part of a university outreach group and is up to date on all vaccinations. Furthermore, he has not had unprotected sexual intercourse over the past several months. On examination, he is noted to be tachycardiac at a rate of 100 beats/min and appears slightly dehydrated. Routine blood tests show moderately raised inflammatory markers. The admitting team suspects meningitis and conducts a lumbar puncture. The tap reveals: a white cell count of 995/mm³ with a neutrophilia and lymphocytosis, 2.5 g/L of protein and 3.0 mmol/L of glucose. Samples are additionally sent for Gram staining and virological examination and appropriate therapy started pending final confirmation. Which one of the following microorganisms is most likely causing meningitis in this patient?
- a) *Treponema pallidum*
 - b) Epstein-Barr virus
 - c) *Mycobacterium tuberculosis*
 - d) *Neisseria meningitidis*

Questions (109 & 110)

A 47-year-old man presents to the emergency department after falling from his bicycle. He claims that his neck was suddenly and violently hyperflexed. Although he is currently complaining of neck pain, his chief complaint is weakness of the arms. On examination, he is found to have profound symmetric weakness of both hands and wrists. His biceps and triceps are moderately weak. The lower extremities are only minimally weak, and he is able to ambulate, albeit with some difficulty. His sensation to all modalities is within normal limits. Plain radiographs of his neck reveal no fracture or dislocation, but there is evidence of severe spondylosis with osteophytes narrowing the neural canal at C₃-C₄, C₄-C₅, and C₅-C₆.

107. What is the most likely mechanism of injury?
- a) Brachial plexus injury
 - b) External carotid artery occlusion
 - c) Epidural hematoma
 - d) Contusion of the spinal cord
108. What is this pattern of motor findings that results from this injury termed?
- a) Central cord syndrome
 - b) Posterior cord syndrome
 - c) Cervical radiculopathy
 - d) Cauda equina syndrome

- 109. An 87-year-old woman is referred to you for evaluation of lower back pain. It is exacerbated by walking or prolonged standing and occasionally made better by bending over. Physical examination reveals a thin, elderly woman who walks with a cane with her lower back moderately flexed. Motor power in her lower extremities is normal, but she has impaired sensation to light touch and vibration below the L4 dermatome bilaterally. Deep tendon reflexes are normal in her upper extremities but absent in both lower extremities. You refer her for magnetic resonance imaging (MRI) of the lumbosacral spine. What will be the most likely finding on this study?**
- a) Lumbar spinal stenosis
 - b) A herniated L₃-L₄ disk causing unilateral compression of the L₄ root
 - c) Spinal cord compression at the level of L₁ vertebra level
 - d) Spinal cord compression at the T₁ vertebra level
- 110. A 63-year-old woman presents with a several-week history of headaches and difficulties with speech. A sister who lives with her claims that her language "has recently not been making much sense" and that she is a bit confused. Her condition seems to be deteriorating. On neurologic examination, she has a moderately severe aphasia, with difficulty understanding language and following commands, and she makes frequent paraphasic errors when she speaks. There are no other motor or sensory deficits. An MRI with intravenous contrast reveals the presence of a ring enhancing mass lesion within the substance of the left temporal lobe. The lesion is approximately 3 cm in greatest diameter, poorly demarcated from the surrounding brain, and surrounded by a moderate amount of cerebral edema. Findings on routine admission tests, including chest X-ray and serum chemistry, are unremarkable. What is the most likely diagnosis?**
- a) Low-grade cerebral astrocytoma
 - b) Glioblastoma multiforme
 - c) Metastasis to the brain from an occult primary cancer
 - d) Glomus tumor.
- 111. A patient presents to the emergency department with a sudden severe headache and stiff neck without evidence of head trauma. The CT scan does not show acute blood. What is the next step?**
- a) MRI of the brain
 - b) Lumbar puncture
 - c) Cerebral angiogram
 - d) Exploratory surgery.
- 112. Abducent nerve is the most common to be injured in prolonged cases of ~ ICT because the following EXCEPT:**
- a) It is a thin nerve
 - b) It originates from midbrain
 - c) It has a long course on skull base
 - d) All of the above
- 113. Cerebral compression**
- a) It is the result of marked rapid increase in intracranial pressure
 - b) Depressed fractures can result in cerebral compression
 - c) The patient feels drowsy and confused up to loss of consciousness
 - d) All of the above

- 114. Cerebrospinal otorrhea is caused by:**
- a) Fracture of the tympanic membrane.
 - b) Fracture of the cribriform plate.
 - c) Fracture of the mastoid air cells.
 - d) Fracture of the parietal bone.
- 115. As regards causalgia all are correct EXCEPT:**
- a) Commonly occurs in ulnar nerve injury
 - b) Is due to partial injury
 - c) Is a constant pain sensation in area supplied by injured nerve
 - d) Is treated by central pain killers in severe cases
- 116. Concerning fracture-dislocations of the spine, the wrong statement is that they:**
- a) Occur most often in the lower cervical region.
 - b) Result from excessive flexion-rotation injury of the spine.
 - c) Are associated with rupture of the "posterior ligament complex".
 - d) Are commonly associated with paraplegia.
 - e) Consist of forward dislocation of the upper vertebra and wedging or crushing of the lower vertebra.
- 117. Depressed fractures of the skull are characterized by the following EXCEPT:**
- a) Are often compound,
 - b) May involve the base of the skull.
 - c) May be associated with profuse bleeding, leakage of CSF or protrusion of brain matter.
 - d) Always require urgent operation.
- 118. The signs of fracture of the anterior cranial fossa include, EXCEPT:**
- a) Epistaxis.
 - b) Bleeding from the ear.
 - c) Cerebrospinal rhinorrhoea.
 - d) Subconjunctival hemorrhage.
- 119. The unconscious head-injured patient with fractured base of the skull should be placed:**
- a) Semi-sitting.
 - b) In the head-down position.
 - c) Prone.
 - d) Supine.
- 120. In cerebral concussion, the following statements are correct EXCEPT:**
- a) The patient falls unconscious with relaxed muscles and closed eyes.
 - b) The skin becomes pale, cold and clammy.
 - c) The respirations become rapid and deep.
 - d) All reflexes disappear and incontinence may occur.
- 121. In cerebral compression due to closed head injury, the wrong statement is that it:**
- a) Is rarely preceded by concussion.
 - b) Has an insidious onset with headache, vomiting and mental dullness.
 - c) Produces characteristic pupillary changes.
 - d) May cause unilateral twitching and convulsions.

122. In head injuries, the most urgent measure is:

- a) Control of bleeding from scalp wounds.
- b) Correction of shock from extracranial causes.
- c) Clearing the air passages and ensuring adequate pulmonary ventilation.
- d) Dealing with associated skeletal or visceral injuries.

123. Vomiting not preceded by nausea is suggestive of:

- a) Gastritis.
- b) Appendicitis.
- c) Pyloric obstruction.
- d) Raised intracranial pressure.

124. The manifestations of raised intracranial pressure NOT include:

- a) Paroxysmal headache which often awakens the patient in the early morning.
- b) Vomiting without nausea and not related to food.
- c) Giddiness and retarded cerebation.
- d) Tachycardia.

125. Following a motorcycle accident, a young male lost consciousness for a few minutes. On admission to hospital, he was fully oriented but skull films revealed a fracture of the left temporal bone. Soon after, the patient lost consciousness and the left pupil was noted to be dilated. This patient should be considered to have:

- a) A ruptured berry aneurysm or A.V. malformation.
- b) Acute subdural hematoma.
- c) Left middle meningeal hemorrhage.
- d) Acute intra-abdominal hemorrhage.

126. All of the following are true about acute subdural haematoma EXCEPT:

- a) It is a collection of blood between the dura and arachinoid membranes.
- b) It can be caused by laceration of the brain.
- c) It can be due to disruption of a cortical blood vessel.
- d) It has a good prognosis.

127. Following a sudden impact in an accident, the 34-year-old race car driver becomes unconscious and is admitted to the hospital. A CT scan is performed, and a right concavo-convex lesion is noted. What is the most likely diagnosis?

- a) Corpus callosum injury
- b) Acute epidural hematoma
- c) Chronic subdural hematoma
- d) Acute subdural hematoma

128. The cervical spine is considered to be free of serious injury following which procedure?

- a) A physical examination revealing no pain or tenderness
- b) Completely negative findings on neurological examination
- c) Anteroposterior (AP), lateral, and odontoid views of the neck
- d) Flexion and extension views of the neck

- 129. Which of the following statements is true of skull fracture?**
- a) It always requires surgical exploration.
 - b) It requires burr holes if compound.
 - c) In the anterior cranial fossa, it may produce rhinorrhea.
 - d) It requires steroid administration.
- 130. Clinical findings which can be seen in a patient who is brain dead include:**
- a) Minimally reactive pupil unilaterally
 - b) No spontaneous breathing with a PaCO₂ of 50 mmHg
 - c) Minimal, unilateral decorticate posturing to painful stimulus
 - d) Positive triple flexion reflex of the leg
- 131. The most common origin for metastatic tumors to the brain is:**
- a) Breast
 - b) Lung
 - c) Colon
 - d) Kidney
- 132. The most common intramedullary spinal tumor in adults is**
- a) Hemangioma
 - b) Ependymoma
 - c) Astrocytoma
 - d) Osteoblastoma
- 133. A patient who localizes to pain, is confused, and opens his eyes to pain has a Glasgow Coma Scale score of:**
- a) 9
 - b) 10
 - c) 11
 - d) 12
- 134. The most common primary malignant tumor of the brain is**
- a) Oligodendoglioma
 - b) Meningeocarcinoma
 - c) Astrocytoma
 - d) Ganglioglioma
- 135. Ecchymosis behind the ear "Battle sign" is indicative of which of the following?**
- a) Parietal skull fracture
 - b) Basilar skull fracture
 - c) Temporal skull fracture
 - d) Occipital skull fracture
- 136. Signs of intracranial haemorrhage following blunt acute head trauma include all, EXCEPT:**
- a) Seizures.
 - b) Deterioration of level of consciousness.
 - c) Unilateral irreactive pupillary dilatation.
 - d) Tachycardia in absence of signs of bleeding in other sites.
- 137. The definitive treatment in cases of congenital hydrocephalus is:**
- a) Repeated CSF tapping
 - b) Ventriculoperitoneal shunt
 - c) Ventriculeostomy.
 - d) Craniotomy and CSF evacuation.
- 138. Otitis media maybe complicated by**
- a) CSF otorrhea
 - b) Cerebellar or temporal lobe abscess
 - c) Superior sagittal sinus thrombosis

- 139. A patient is admitted following an assault. On assessment, he has a stab wound to his chest. Clinically, he has a haemothorax and his Glasgow Coma Scale score is 4/15. Without further management, death of this patient will be first due to:**
- a) Hemorrhagic shock
 - b) Neurogenic shock.
 - c) Airway compromise
 - d) Intracranial hemorrhage
- 140. The most two important investigations in isolated head injured patients are:**
- a) CT brain and plain X- ray skull
 - b) CT brain and plain X-ray cervical spine
 - c) CT brain and CT cervical spine
 - d) Plain X-rays skull and cervical spine
- 141. Clinical features of intramedullary spinal cord tumors includes all of the following EXCEPT:**
- a) Sometimes there is anesthesia on one side & paralysis and hyperesthesia on the other.
 - b) Root pains tend to occur early.
 - c) Urinary incontinence usually appears early
 - d) Dissociated sensory loss may occur.
- 142. The median nerve innervate all of the following muscles EXCEPT:**
- a) Pronator teres.
 - b) Pronator quadratus.
 - c) Lateral 1/2 of the flexor digitorum profundus
 - d) Medial 2 lumbricles.
- 143. Ulnar nerve injury is characterized by all of the following EXCEPT:**
- a) Positive Froment's sign.
 - b) Hyperextension of the metacarpo-phalangeal joint of the 4th and 5th fingers.
 - c) Wasted interossei.
- 144. When does primary brain injury occur?**
- a) At the moment of impact.
 - b) Only if the patient is in coma.
 - c) In the first hour after injury.
 - d) In the first 24 hours after injury.
- 145. Which of the followings can cause secondary brain injury?**
- a) Hypoxia.
 - b) Reduced cerebral perfusion.
 - c) Hypotension.
 - d) Raised ICP.
- 146. A young adult male was brought to the emergency room because of severe headache of sudden onset. There was no history of trauma or loss of consciousness and physical examination was negative. The diagnosis proved to:**
- a) Acute extradural hemorrhage.
 - b) Acute subdural hemorrhage.
 - c) Rupture aneurysm of the circle of Willis.
 - d) Hypertensive encephalopathy.

147. In cerebral irritation, the wrong statement is that:

- a) The patient is restless and irritable.
- b) The eyes are closed with contracted pupils.
- c) The temperature is subnormal.
- d) Residual neurological symptoms are common.

148. The wrong statement about cerebral concussion is that it:

- a) Is a diffuse neuronal injury without any organic damage.
- b) Is characterized by transient loss of consciousness.
- c) Does not affect the pulse and blood pressure.
- d) Causes loss of muscle tone, reflex activity and sphincteric control.

149. The following statements about sub-pericranial hematoma of the scalp are true EXCEPT that it:

- a) Commonly occurs over the parietal bone in infants.
- b) Is limited by the suture lines to the underlying bone.
- c) Forms a soft swelling fixed to the skull but not to the scalp.
- d) Has an ill-defined margin.

150. The arrangement of scalp layers from superficial to deep is as follows:

- a) Superficial fascia-loose areolar tissue -occipitofrontalis muscle.
- b) Superficial fascia-occipitofrontalis muscle-loose areolar tissue.
- c) Loose areolar tissue - superficial fascia - occipitofrontalis muscle.
- d) Loose areolar tissue- occipitofrontalis muscle -superficial fascia.
- e) Occipitofrontalis - superficial fascia - loose areolar tissue.

151. Which of the following is a sign of fracture base affecting the middle cranial fossa?

- a) Stiffness of the cervical muscles.
- b) Rhinorrhea.
- c) Dilated pupils in a conscious patient.
- d) Facial palsy.

152. Acute extradural hematoma passes into 3 stages:

- a) Compression - lucid interval - concussion.
- b) Compression-concussion-lucid interval.
- c) Concussion-lucid interval-compression.
- d) Concussion-compression-lucid interval.
- e) Lucid interval-concussion-compression.

153. Neuropraxia due to:

- a) Axonal disruption of a peripheral nerve.
- b) Nerve trunk disruption.
- c) Physiologic disruption of a peripheral nerve.
- d) None of the above.

154. The most common cause of hydrocephalus is:

- a) Infection b) Neoplasm c) Hemorrhage. d) Congenital.

155. Upper motor neuron lesion can cause the following signs, EXCEPT:

- a) Positive Babinski's sign. c) Sustained clonus.
b) Hypotonia. d) Hyper-reflexia

156. According to Glasgow coma scale GCS, a verbal score of 1 indicates:

- a) Disoriented response c) No response
b) Inappropriate words d) Incomprehensive sounds

157. Regarding skull fracture all are true EXCEPT:

- a) CSF rhinorrhea associated with a basal skull fracture requires prompt surgical exploration and repair of the defect
b) A simple non depressed linear skull fracture potentially serious and can be fatal
c) Most depressed skull fractures requires surgery to elevate the depressed bone fragments regardless of neurological defects
d) Basal skull fractures involve the base of the calvarium and may be suggested by bruising about the eye or above the ear

158. Herniation of the uncus of temporal lobe through the tentorial notch leads to dilatation of pupil due to pressure on:

- a) Hypothalamus c) Midbrain
b) Occipital cortex d) 3rd cranial nerve

159. Complete transection of the spinal cord at the C7 level produce all of the following effects EXCEPT:

- a) Limited respiratory effort. c) Areflexia below the level of the lesion.
b) Flaccidity below the level of the lesion. d) Hypotension.

160. The signs of intracranial hypertension are all EXCEPT:

- a) Slow pulse. c) Slow and irregular respiration.
b) Hypertension. d) Fever.

161. Which of the following statements is true regarding the Glasgow Coma Scale?

- a) It serves to assess long term sequelae of head trauma.
b) A high score correlate with high mortality rate.
c) It includes measurement of papillary reflexes.
d) It includes measurement of verbal response.

162. Lucid interval is present with:

- a) Subarachnoid bleeding. c) Subdural hemorrhage.
b) Extradural hemorrhage. d) Intracerebral bleeding.

163. Recognized features of spina bifida include:

- a) Foot drop. b) Lipoma. c) Enuresis. d) All of the above.

164. Clinical features characteristic of sub-arachnoid hemorrhage include:

- a) Sudden severe headache. c) Sudden loss of conscious.
b) Oculomotor nerve palsy. d) All of the above.

165. Regarding the diagnosis of intra-cerebral abscess, all are true Except:

- a) Leukocytosis does not occur because of the blood brain barrier.
b) There can be evidence of past middle ear infection.
c) Persistent pyrexia is frequently absent.
d) As the abscess enlarges the pulse rate may become slower.

166. False about extra-dural hemorrhage is:

- a) The dura becomes forcibly detached from the skull at the site of injury.
b) A lucid interval between concussion and cerebral compression is always present.
c) Constriction of the pupil on the affected side can always be observed in the course of making diagnosis.
d) Coning is likely to occur.

167. Middle cranial fossa fracture present with:

- a) Otorrhea. b) Battle sign. c) Rhinorrhea. d) All of the above.

168. In lumbar disc surgery, the aim is to:

- a) Reposition the prolapsed disc to its normal.
b) Decompress the blood vessels.
c) Decompress the lumbar roots. d) All of the above

169. Regarding secondary brain injury, choose the correct answer:

- a) It may be caused by hypoxemia. b) It may be caused by hypercapnia.
c) It may be caused by intracranial hematoma.
d) All of the above

170. A 15-year-old boy is struck by a stone in the side of the head, he briefly losses consciousness but quickly returns to a lucid state, concerning his subsequent course, TRUE statement is:

- a) If the patient has a normal neurological examination at the time of emergency room assessment, he can be discharged safely to home.
b) A head CT scan should be performed regardless the current neurological examination.
c) The likely mechanism of injury arises from a tear of branch of the superficial temporal artery
d) If after an initial lucid interval, a rapid progression to coma with fixed and dilated pupils and decerebration occurs, the most likely CT finding would be a subdural hematoma.

- 171. What is the typical appearance of an acute subdural hematoma on non-contrast CT?**
- a) Diffuse intraparenchymal hypodense mass
 - b) Hyperdense biconvex mass between skull and parynchyma
 - c) Hyperdense intraventricular mass
 - d) Hyperdense crescent shaped mass with concavity towards parynchyma
- 172. Regarding acute extradural hematoma all are true Except:**
- a) Patients usually have ipsilateral pupillary reaction
 - b) Patients usually have contralateral hemiplegia
 - c) A CT demonstrates a crescent shaped lesion, with a concave surface away from the skull
 - d) Bleeding can be from arterial or venous shunts
- 173. Signs of fracture of anterior cranial fossa do NOT include:**
- a) Epistaxis
 - b) Sub-conjunctival heamorrhage
 - c) Cerebra spinal rhinorrhea
 - d) Bleeding from the ear
- 174. Regarding chronic subdural hematoma all of the following are true EXCEPT:**
- a) Has better prognosis than acute type
 - b) Are common in the young
 - c) Might follow minor trauma which may be overlooked
 - d) Is best diagnosed by CT of the brain
- 175. A 28-year-old male had RTA, on primary survey, on rubbing his sternum opens his eyes and tries to push your hand away. He also mutters something that you are unable to understand. His Glasgow coma scale score is:**
- a) 7
 - b) 8
 - c) 9
 - d) 10
- 176. The standard treatment for an asymptomatic 2 cm chronic subdural hematoma is:**
- a) Burr hole drainage
 - b) Placement of bedside ventriculostomy
 - c) Craniotomy
 - d) None of the above
- 177. Cerebral auto-regulation maintains normal cerebral blood flow in what range of mean arterial blood pressures?**
- a) 50-150 mmHg
 - b) 50-100mmHg
 - c) 80-200 mmHg
 - d) 100-250 mmHg
- 178. How is cerebral perfusion pressure defined?**
- a) Systolic arterial blood pressure minus diastolic blood pressure
 - b) Systolic arterial blood pressure minus venous pressure
 - c) Mean arterial blood pressure minus venous pressure
 - d) Mean arterial blood pressure minus intracranial pressure (ICP)

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189. The scalp consists of all the following layers EXCEPT:

- a) Loose areolar tissue.
- b) Dense connective tissue.
- c) Subcutaneous fat.
- d) Galea aponeurotica.

190. In cerebral concussion, the following statements are correct EXCEPT:

- a) The patient falls unconscious with relaxed muscles and closed eyes.
- b) The skin becomes pale, cold and clammy.
- c) All reflexes disappear and incontinence may occur.
- d) The pupils are mydriatic and irreactive.

191. Skin manifestations of spina bifida occulta included:

- a) Tuft of hair
- b) Skin hemangioma
- c) Skin dimple
- d) All of the above

192. The incorrect statement about lumbar disc protrusions is that they:

- a) Occur most often in elderly subjects.
- b) Are much more common in males than in females.
- c) Manifest themselves by low back pain and sciatica.
- d) May produce neurological signs.

193. The untrue statement concerning spondylolisthesis is that it:

- a) Is a forward and downward slipping of the fifth lumbar vertebra from the sacrum.
- b) Affects chiefly middle-aged multiparous women.
- c) Is not due to any bony defect.
- d) Manifests itself by low back and sciatica.
- e) Causes severe lordosis.

194. The INCORRECT statement about spondylitis ankylopoitica (ankylosing spondylitis) is that it:

- a) Starts in the spine and spreads to the sacroiliac and hip joints.
- b) Leads to ossification of the ligaments and joint capsules.
- c) Produces a characteristic radiological appearance known as "bamboo spine".
- d) May require surgical interference.

195. A 14-year-old slender female presented with asymptomatic scoliosis which disappeared on stooping and recumbency. X-ray examination revealed a single dorsal curve with normal discs and vertebrae. Her scoliosis is:

- a) Idiopathic.
- b) Postural.
- c) Thoracogenic.
- d) Osteopathic.

196. The FALSE statement concerning idiopathic scoliosis is that it:

- a) Affects growing children, particularly girls,
- b) Is characterized by one primary curve and two compensatory curves.
- c) May produce a "rib hump" on the convex side.
- d) Produces no chest complications.

- 197. The radiological signs of Pott's disease include the following EXCEPT:**
- a) Wedging of vertebral bodies.
 - b) Decalcification and rarefaction of affected segment.
 - c) Intact intervertebral discs.
 - d) Angular kyphosis.
- 198. A 4-year-old boy presented with pain in the back of two months' duration. Examination revealed localized tenderness over the lower dorsal vertebrae, slight kyphosis, muscular rigidity and limitation of all spinal movements. He proved to be suffering from:**
- a) Scheuermann's disease.
 - b) Kummel's disease.
 - c) Pott's disease.
 - d) Calve's disease.
- 199. The metastatic lesion most often involving the spine arises from:**
- a) Breast.
 - b) Kidney.
 - c) Lung.
 - d) Prostate.
- 200. The indications for lumbar puncture include the following EXCEPT:**
- a) Reduction of intracranial tension in brain tumors
 - b) Diagnosis of spinal tumors.
 - c) Treatment of traumatic subarachnoid hemorrhage.
 - d) Injection of antibiotics in meningitis.
- 201. Cerebral contusion is characterized by the following EXCEPT:**
- a) Prolonged and deep unconsciousness.
 - b) Absence of localizing signs.
 - c) Increased intracranial tension as revealed by lumbar puncture.
 - d) Imperfect recovery with headache, photophobia and confusion.
- 202. Intracranial meningioma is characterized by the following features EXCEPT:**
- a) Arises from the arachnoid villi.
 - b) Occurs most often in the posterior cranial fossa.
 - c) Is very vascular.
 - d) Never invades the brain.
- 203. Craniopharyngioma is characterized by the following EXCEPT that it:**
- a) Is a suprasellar intracranial tumor.
 - b) May consists of epidermoid cells, basal cells or enamel cells.
 - c) Rarely becomes calcified.
 - d) Occurs usually in children.
- 204. The following statements about acromegaly are true EXCEPT that:**
- a) It is always due to an acidophilic pituitary adenoma.
 - b) The adenoma secretes growth hormone.
 - c) Bitemporal hemianopia is usually present.
 - d) It is usually associated with, hypogonadism.

- 205. What is the origin of the parasympathetic nervous system?**
a) Cranial nerves I, II and VII
b) All Thoracic spinal cord segments.
c) All lumbar segments and first sacral segment.
d) None of the above.
- 206. Posterolateral prolapsed lumbar disc at the level of L5-S1 will affect mainly:**
a) Flexion of the hip
b) Planter flexion of the foot
c) Dorsiflexion of the big toe
d) Extension of the knee
- 207. Which of the following statements about head injuries is FALSE?**
a) The majority of deaths from auto accidents are due to head injuries.
b) Head injury alone often produces shock.
c) A rapid and complete neurologic examination is part of the initial evaluation of the trauma patient.
d) Optimizing arterial oxygenation is part of initial therapy.
- 208. Which statement regarding meningiomas is FALSE?**
a) Surgical resection is the primary treatment.
b) Recurrence can occur even after a gross total resection.
c) Chemotherapy is usually given to patients after a partial resection.
d) The dural attachment should be removed when possible.
- 209. Which type of tumor is least likely to metastasize to the brain?**
a) Breast b) Prostate c) Renal cell d) Lung
- 210. An L5/S1 herniated disc compressing the S1 nerve root causes:**
a) Loss of the ankle jerk reflex
b) Increased knee jerk reflex
c) Sensory loss over the thigh
d) Quadriceps weakness
- 211. Stereotactic radiosurgery is used to treat all of the following EXCEPT:**
a) Metastatic brain tumor
b) Arteriovenous malformation
c) Trigeminal neuralgia
d) Cerebral aneurysm
- 212. Children with a myelomeningocele usually have this associated malformation:**
a) Chiari malformation I
b) Chiari malformation II
c) Dandy-Walker syndrome
d) Corpus callosum agenesis
- 213. All of the following regarding brain abscesses are true, EXCEPT:**
a) MRI shows a ring-enhancing mass.
b) They may be excluded in patients with a normal peripheral white blood cell count.
c) They should be drained surgically when causing significant mass effect.
d) They may be confused with a glioma on MRI.

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- 223. Regarding cervical disc prolapse, all are true Except:**
- a) Spinal fusion and laminectomy is indicated if there is cord compression
 - b) C₅₋₆ prolapse causes diminished triceps jerk
 - c) C₆₋₇ prolapse causes sensory loss in the back of the arm
 - d) Midline protrusions may compress the anterior spinal artery
- 224. A 16 year old man sustains a basal skull fracture and is suspected of having CSF rhinorrhea. Which of the following laboratory tests would most accurately identify whether CSF is present or not?**
- a) Microscopy, gram stain and culture
 - b) Microscopy to identify red blood cells
 - c) Lab Stix testing for glucose
 - d) Lab Stix testing for protein
- 225. Which of the following statements is true regarding meningiomas?**
- a) Malignant in 50 % of the cases.
 - b) They occur mainly in men.
 - c) They arise from the dura.
 - d) They are treated primarily by surgical excision.
- 226. All of the following are cutaneous manifestations of spina bifida occulta EXCEPT:**
- a) Midline lumbar capillary hemangioma.
 - b) Focal hairy patch over the thoracolumbar spine.
 - c) Dermal sinus located above the mid-sacrum.
 - d) Midline subcutaneous lipoma (capillary hemangioma)
- 227. A 45-year-old man is involved in a road traffic accident. He is deeply unconscious at the scene. Examination shows him to be GCS 7 with a fixed dilated right pupil. He is intubated for transfer to A&E. Choose the correct diagnosis:**
- a) Extradural haematoma
 - b) Petrous temporal skull fracture
 - c) Subdural haematoma
- 228. Which of the following is a criterion that must be met for the non-operative management of an epidural hematoma?**
- a) Clot volume < 30 cm³
 - b) Maximum thickness < 2.5 cm
 - c) GCS>12
 - d) No previous history of systemic hypertension

Questions (235&236)

A 63-year-old woman with a history of local inoperable breast cancer is referred to you for the evaluation of new-onset diplopia. Upon questioning, she admits that diplopia occurs mostly when she attempts to look at objects in the distance and when she attempts to look toward the left side. In addition, she reports having severe headaches and an electric-type discomfort affecting her right deltoid region for approximately 3 weeks. On neurologic examination, she is found to have left abducent (sixth) nerve palsy; the rest of her cranial nerves are intact. She also has mild weakness of the right deltoid and a diminished biceps tendon jerk on the same side. Findings on an MRI of the brain with intravenous contrast are unremarkable.

229. In this patient, what would be the most likely site where metastasis occurs?
- a) Brain b) Cerebellum c) Orbital cavity d) Meninges
230. What would the next step in management involve?
- a) An MRI of the cervical spine to rule out metastatic deposits within the cervical roots
 - b) A CT scan of the brain with intravenous contrast
 - c) A lumbar puncture to measure opening pressure and obtain cerebrospinal fluid (CSF) for cytologic analysis
 - d) Repeated breast biopsy

Questions (237&238)

A 5-year-old girl undergoes debulking of medulloblastoma. She undergoes a repeat MRI of the brain with intravenous contrast, which shows a small amount of enhancement consistent with limited residual tumor. She is given a full course of radiotherapy to the posterior fossa and does very well for 6 weeks, until she experiences difficulty in walking. Physical examination at this time indicates moderate weakness of both lower extremities (particularly on the right side) but strength in her upper extremities and cranial nerves are normal. Her sensation to light touch and vibration are intact, but she has diminished sensation to pinprick throughout her left leg.

231. What should be the next step in management?
- a) Obtain a single-photon-emission CT (SPECT) scan of the brain to rule out the possibility of radiation-induced toxicity
 - b) Begin treatment with chemotherapy for the residual tumor within the brain
 - c) Obtain an MRI or myelogram of the entire spinal axis to rule out the possibility of "drop metastasis" from the medulloblastoma
 - d) Obtain an ultrasound of the lumbar spine
232. What should treatment of this girl involve?
- a) Removal of recurrent medulloblastoma and neck dissection
 - b) Repeat irradiation to the posterior cranial fossa
 - c) Complete craniospinal irradiation with local boosts to the areas where tumor nodules are detected
 - d) Cortisone alone

- 233. In osteoarthritis of the spine, the FALSE statement is that it:**
- a) Manifests itself by pain and stiffness of the back.
 - b) May cause severe kyphosis.
 - c) Produces characteristic radiological signs.
 - d) Is always treated conservatively.
- 234. The incorrect statement about extradural spinal tumors is that they:**
- a) Are frequently primary tumors.
 - b) Cause severe local pain due to bone destruction.
 - c) May lead to collapse of the affected vertebra.
 - d) Proceed rapidly to compression paraplegia spastic paralysis.
- 235. The most popular treatment for congenital hydrocephalus is by:**
- a) Repeated lumbar puncture.
 - b) Ventriculo-venous anastomosis.
 - c) Removal of the obstructing lesion.
 - d) Ventriculo-cisternostomy.
- 236. Chromophobe adenoma of the pituitary is characterized by the following features EXCEPT that it:**
- a) Manifests itself by hypopituitarism.
 - b) Consists of clear non-granular cells.
 - c) Never turns malignant.
 - d) Produces no secretion.
- 237. The incorrect statement about subclinical intracranial aneurysms is that they:**
- a) Arise from the internal carotid artery in the cavernous sinus.
 - b) Produce no cranial nerve palsies.
 - c) Are readily diagnosed by arteriography.
 - d) Should be treated by ligation of the common carotid artery.
- 238. The incorrect statement about carotido-cavernous aneurysm is that it:**
- a) Is an arteriovenous aneurysm between the internal carotid and the cavernous sinus.
 - b) May follow traumatic rupture of the artery due to fracture of the base of the skull.
 - c) Never occurs spontaneously.
 - d) Produces pulsating exophthalmos with congestion of the orbital and supraorbital veins.
- 239. A monoplegic patient was found to have the following CSF analysis:**
- | | |
|--|--------------------------------|
| – Pressure: 100 mm H ₂ O | – Glucose: 75 mg/100 ml |
| – Protein: 100 mg/100 ml | |
| – Cells: 1 RBCs & 5 lymphocytes/mm ³ | |
- These figures are most consistent with which of the following:**
- a) Brain tumor.
 - b) Intraspinal tumor.
 - c) Cerebral thrombosis.
 - d) Subarachnoid hemorrhage.

- 240. True statements about intracranial aneurysms include all EXCEPT:**
- a) Occur at arterial bifurcations around the circle of Willis.
 - b) They account for most cases of spontaneous subarachnoid hemorrhage.
 - c) Frequently rebleed after an initial hemorrhage.
 - d) Should be treated surgically after the initial hemorrhage since the second attack is associated with a much higher morbidity and mortality.
- 241. All of the following are potential treatments vasospasm EXCEPT:**
- a) Calcium channel blocker
 - b) Hemodilution
 - c) Balloon angioplasty
 - d) Phenytoin (Dilantin)
- 242. All of the following regarding astrocytomas are true EXCEPT:**
- a) Glioblastoma multiforme is the highest grade.
 - b) They are often associated with p53 gene mutations.
 - c) Low-grade tumors may not enhance.
 - d) Radiation treatments are not indicated for high-grade tumors.
- 243. All of the following regarding hemangioblastoma are true EXCEPT:**
- a) It is most commonly present in children.
 - b) It is usually found in the cerebellum, brain stem, or spinal cord.
 - c) It may be associated with von-Hippel-lindau disease.
 - d) Surgical excision is the preferred treatment.
- 244. Which of the following patients should receive the first priority in the treatment?**
- a) A patient with hemothorax.
 - b) A patient with fracture pelvis and injury of the urethra.
 - c) A patient with head trauma and fracture of the facial bones and bleeding in his mouth and nose.
 - d) A patient with fissure fracture of the skull.
- 245. Which of the following statements regarding third nerve palsy in head injury are true EXCEPT?**
- a) It causes a fixed, dilated pupil.
 - b) It may cause the eye to deviate upwards.
 - c) It is caused by pressure on the third nerve by a herniated uncus.
 - d) It usually occurs on the same side of the haematoma.

2- Face and Lip

- 1. A left unilateral cleft palate is most likely to result from incomplete union between which of the following prominences:**
- a) The frontonasal to lateral nasal prominences.
 - b) The lateral nasal to maxillary prominences.
 - c) The medial nasal to the lateral nasal prominences.
 - d) The medial nasal to the maxillary prominences.

2. **Concerning complete cleft palate, the UNTRUE statement is that it:**
 - a) Is due to failure fusion of the palatal shelves of the maxillary processes with each other and with the frontonasal process.
 - b) Is often associated with cleft-lip and broadening of the face.
 - c) Interferes with nutrition and speech.
 - d) Requires surgical repair after the second year of life.
3. **All of the following about cleft lip and palate are true, EXCEPT:**
 - a) 2nd most common congenital deformity.
 - b) Twice as common in males as females.
 - c) 60% are associated with syndromes as Treacher Collin's syndrome.
 - d) Occurs due to environmental rather than familial causes.
4. **All of the following are true about Pierre-Robin syndrome EXCEPT:**
 - a) It is the commonest syndrome associated with clefts.
 - b) It includes glossoptosis.
 - c) Retrognathia is not a feature of it.
 - d) It is associated with early respiratory and feeding problems.
5. **Which of the following statements is NOT TRUE?**
 - a) Pierre Robin syndrome is the commonest syndrome associated with clefts.
 - b) Pierre Robin syndrome includes glossoptosis.
 - c) Retrognathia is not a feature of the Pierre Robin syndrome.
 - d) Pierre Robin syndrome is associated with early respiratory and feeding difficulties.
6. **Which of the following statements is NOT TRUE?**
 - a) In cleft lip there is disruption of the 2 groups of muscles of the upper lip and nasolabial region.
 - b) In bilateral cleft lip, the disruption is associated with a prolabium.
 - c) The secondary palate is defined as the structures anterior to the incisive foramen.
 - d) Cleft palate results in failure of fusion of the 2 palatine shelves.
7. **Which of the following statements are TRUE?**
 - a) Management of clefts requires a multidisciplinary team approach.
 - b) Long-term review is not required.
 - c) In cleft palate, Eustachian tube dysfunction is not the cause of otitis media.
 - d) Regular audiology tests are not necessary to be done during childhood
8. **The first step in the treatment of a newborn with a complex cleft lip and palate is:**
 - a) Nasoalveolar molding prosthetics in infancy, followed by staged repair
 - b) Repair of cleft lip at 3 months of age, followed by palate repair
 - c) Repair of cleft palate at 6 months of age, followed by lip repair
 - d) Single stage repair (lip and palate) at 9-12 months of age

- 9. The proper treatment of cleft palate includes the following EXCEPT:**
- a) Mobilization of the mucoperiosteum from the hard palate and detachment of the soft palate from the hard.
 - b) Fracture of the hamular processes of the palatine bones.
 - c) Bilateral relaxation incisions.
 - d) Closure of the cleft by suture in one layer.
- 10. The wrong statement about carcinoma of the lip is that it:**
- a) Affects males much more often than females.
 - b) May produce a "Kissing cancer" on the other lip.
 - c) Is most often a well-differentiated squamous cell carcinoma.
 - d) Spreads to the regional glands by lymphatic permeation.
- 11. Correct statements about dentigerous cyst include the following EXCEPT:**
- a) Occurs in children and adolescents in relation to a missing tooth.
 - b) Is more common in the upper than in the lower jaw.
 - c) Presents as a globular swelling expanding the jaw.
 - d) Contains a glairy fluid around an unerupted tooth.
- 12. A procedure which removes all LN on one side of the neck but preserves the accessory nerve, IJV and sternomastoid muscle is:**
- a) Radical neck dissection.
 - b) Classical neck dissection.
 - c) Selective neck dissection.
 - d) Modified radical neck dissection.
- 13. In patients with bilateral subcondylar mandates the following interventions: mandibular fractures, correct protocol:**
- a) Airway precautions
 - b) Cervical spine clearance
 - c) Panoramic radiograph (Panorex) and Towne's view radiographs
 - d) All of the above
- 14. A completely excised skin lesion of the face proved to be a basal, cell carcinoma. The further management of the case should be:**
- a) Lymph node dissection.
 - b) Radiotherapy.
 - c) Regular follow up.
- 15. Carcinoma of the tongue infiltrating the mandible is best treated by:**
- a) Two-stage excision of primary and regional glands.
 - b) Monoblock excision of primary and whole lymphatic area (Commando operation).
 - c) Radiotherapy for primary followed by radical neck dissection.
 - d) Excision of primary and radiotherapy to cervical lymph nodes.
- 16. What is the common sign and symptom of fracture zygoma?**
- a) Battle's sign.
 - b) Subconjunctival hemorrhage.
 - c) VII nerve palsy.
 - d) None of the above

17. The most frequent fracture of the face involves the:

- a) Zygoma. b) Nasal bones. c) Maxilla. d) Mandible.

18. A 24-year-old computer technician notes a progressive increase in the size of his left jaw. After x-rays are taken and a biopsy is done, a diagnosis of ameloblastoma is established. What should be the next step in management?

- a) Radiotherapy b) Curettage and bone graft
c) Excision of lesions with 1-2 cm of normal mandible
d) Mandibulectomy with bilateral radical neck dissection

19. Management of leukoplakia of the oral cavity includes all the following, EXCEPT:

- a) Strict oral hygiene. c) Low-dose radiation therapy.
b) Avoidance of alcohol and tobacco. d) Ascertaining that dentures fit properly.

20. False regarding carcinoma of the lip:

- a) If occurring at the angle of the mouth, tends to be more malignant in behavior than carcinoma of the upper or lower lip.
b) May be confused with a keratoacanthoma.
c) Is curable by surgery. d) Is radioresistant.

21. Regarding carcinoma of the tongue, select the right statement:

- a) Diffuse infiltrating tumor (Wooden base) form is the commonest.
b) Tumors of the posterior third drains to the submandibular lymph nodes.
c) Pain in the tongue is due to hypoglossal nerve infiltration.
d) Cancer on top of leukoplakia is an indication for surgery.

22. Regarding Adamantinoma (amelolastoma), select the right statement:

- a) It affects the upper jaw more than the lower.
b) Malignant change can be in the form of carcinoma or sarcoma.
c) It expands the jaw more on the inner than on the outer table.
d) It's usually painful.

23. In fractures of the mandible, the following statements are true, EXCEPT:

- a) The angle is the commonest site.
b) The "open-bite" deformity is suggestive of bilateral neck fractures.
c) The patient suffers from pain and dribbling of blood-stained saliva.
d) Speech and swallowing are impaired.

24. Which statement about adamantinoma is INCORRECT?

- a) Is a basal-cell carcinoma arising in the paradental epithelial debris.
b) Occurs in children and adolescents.
c) Usually starts in the region of the angle of the lower jaw.
d) Consists of cystic and solid masses enclosed in a firm fibrous capsule.

- 25. Which statement is untrue about chronic superficial glossitis?**
- a) Affects middle-aged and elderly males.
 - b) Is always due to syphilis.
 - c) Manifests itself by hypertrophied papillae, leukoplakia and fissures.
 - d) Produces characteristic histological changes.
- 26. The patient with zygomatic bone fracture will complain from the following EXCEPT:**
- a) Bleeding per nose.
 - b) Sub-conjunctival hemorrhage.
 - c) Loss of sensation in the lower lip.
 - d) Loss of sensation in the upper lip.
- 27. The most appropriate treatment of a septal hematoma following blunt trauma to the nose is:**
- a) Observation
 - b) Aspiration
 - c) Incision and drainage
 - d) Operative repair of the fracture
- 28. Optimal time for repair of a facial nerve injured during a surgical procedure is:**
- a) Immediately
 - b) 2 weeks after injury
 - c) 4-6 weeks after injury
 - d) 3 months after injury
- 29. The nerve most often injured in fractures of the mandible is the:**
- a) Facial.
 - b) Mental.
 - c) Mandibular.
 - d) Hypoglossal.
- 30. The FALSE statement about ranula is that it:**
- a) Is a bluish cyst in the angle between the tongue and the floor of the mouth.
 - b) Usually lies to one side of the middle line.
 - c) May assume an hour-glass appearance.
 - d) Is best treated by complete excision.
- 31. Which of the following statements is UNTRUE concerning oral cancers?**
- a) Squamous in type.
 - b) Associated with poor oral hygiene.
 - c) Located most often on the lip, tongue or floor of the mouth.
 - d) Widely disseminated when first seen.
- 32. Correct statements about Osteoclastoma of the jaw include the following EXCEPT:**
- a) Is commonest in adolescents.
 - b) Usually affects the mandible.
 - c) Arises close to the angle.
 - d) Consists of giant cells, spindle cells and numerous blood vessels.

3- The Salivary Glands

- 1. Which of the following statements is correct as regard salivary stones?**
- a) The commonest gland affected is the parotid gland
 - b) May present by dry mouth due to decreased salivary flow
 - c) Commonly present with swelling in the submandibular region
 - d) In general, salivary stones are usually radiolucent

- 2. T.B cervical lymphadenitis commonly affects:**
 - a) Posterior triangle nodes
 - b) Upper deep cervical nodes
 - c) Lower deep cervical nodes
 - d) Submaxillary nodes
- 3. Acute bacterial sialadenitis most commonly affects:**
 - a) Parotid
 - b) Submandibular
 - c) Submaxillary.
 - d) All equally.
- 4. Spot the WRONG statement:**
 - a) 75% of salivary neoplasms arise in parotid.
 - b) 80% of parotid tumours are benign.
 - c) 80% of benign parotid tumours are Pleomorphic adenoma.
 - d) All are correct.
- 5. Salivary carcinoma with poor prognosis is:**
 - a) Adenoid cystic carcinoma.
 - b) Adenocarcinoma.
 - c) Squamous carcinoma.
 - d) Mucoepidermoid carcinoma.
- 6. Salivary carcinoma with perineural spread to brain is:**
 - a) Adenocarcinoma.
 - b) Adenoid cystic carcinoma.
 - c) Squamous carcinoma.
 - d) Acinic cell carcinoma.
- 7. The most common indication for removal of sublingual salivary gland is:**
 - a) Sialoadenosis.
 - b) Neoplasia
 - c) Ranula.
 - d) Lymphoma
- 8. Parotid gland is pierced by the following structures EXCEPT:**
 - a) Retromandibular vein
 - b) Facial nerve
 - c) Auriculotemporal nerve
 - d) Common carotid artery
- 9. About anatomy of the submandibular salivary gland, all the following statements are true, EXCEPT:**
 - a) The mylohyoid muscle divides the gland into superficial and deep parts.
 - b) The submandibular duct arises from the superficial part of the gland.
 - c) The deep part of the gland is related to the hypoglossal nerve.
 - d) The submandibular duct is closely related to the lingual nerve.
- 10. About bacterial parotitis, all the following statements are true, EXCEPT:**
 - a) Parotitis is known to be more prevalent in the postoperative period.
 - b) The usual bacteria are Staphylococcus aureus and anaerobes.
 - c) A parotid abscess causes severe pain.
 - d) Incision and drainage of a parotid abscess should await the detection of fluctuation.

11. A 10-year old boy presents by progressive enlargement of a right parotid swelling over the last 10 months. Lately the boy is unable to close his right eye. Examination shows right facial nerve palsy. The most likely diagnosis is:

- a) Adenolymphoma.
- b) Metastasis in parotid lymph node.
- c) Adenocarcinoma.
- d) Mucoepidermoid carcinoma.

12. About pleomorphic adenoma of the parotid gland, all the following statements are true, EXCEPT:

- a) It has epithelial and myoepithelial components.
- b) The tumor is painless.
- c) It has an incomplete capsule.
- d) The tumor is usually present deep to the facial nerve.

13. All the following are possible complications of parotidectomy, EXCEPT:

- a) Loss of sensation on one side of the face.
- b) Inability to close the eyelids.
- c) Salivary fistula.
- d) Sweating on the side of the face when eating (gustatory sweating).

14. Salivary gland calculi:

- a) Usually arise in the parotid gland.
- b) Are mostly visible on plain x-ray.
- c) Are associated with hyperuricemia.
- d) Are treated by medical conservative measures.

15. A 62 year old man undergoes excision of a cylindroma of the submandibular gland. He is most likely to have an injury to which of the following?

- a) Maxillary branch of the trigeminal nerve
- b) Lingual nerve
- c) Vagus nerve
- d) Floor of the maxilla

16. Operable carcinoma of parotid is best treated by:

- a) Radiotherapy alone.
- b) Chemotherapy alone.
- c) Superficial conservative parotidectomy.
- d) Radical parotidectomy with block dissection of LNs.

17. Concerning pleomorphic adenoma (mixed salivary tumor), which of following statements is INCORRECT:

- a) Is the commonest salivary tumor.
- b) Has a very heterogenous histological structure.
- c) Is well-encapsulated.
- d) Presents as a slow-growing firm swelling just below the lobule of the ear.

18. False Regarding benign salivary gland adenomas:

- a) Pleomorphic adenomas account for less than 10% of parotid gland tumors
- b) Pleomorphic adenomas can undergo malignant change
- c) Adenolymphomas (Warthin's tumour) usually occur in elderly men
- d) Adenolymphomas may be bilateral.

- 19. The treatment of submandibular calculus lying within the duct is to:**
- a) Dilate the duct
 - b) Remove the stone by making an opening in the duct
 - c) Slit open the duct at the papilla
 - d) Remove the gland
- 20. Regarding tumors of the salivary glands, all are true EXCEPT:**
- a) Mixed parotid tumor is benign.
 - b) Warthin's tumor occurs only in the submandibular gland
 - c) Mixed parotid tumor affects the superficial lobe
 - d) Warthin's tumor shows cystic spaces.
- 21. Which of the following structures is not an anatomical relation to the Submandibular salivary gland?**
- a) The anterior facial vein.
 - b) The facial artery.
 - c) The inferior alveolar nerve.
 - d) Lingual nerve
- 22. Which structure attaches the deep lobe of the Submandibular gland to the lingual?**
- a) The hypoglossal nerve.
 - b) The Submandibular ganglion.
 - c) The deep cervical fascia.
- 23. Which is the most appropriate form of biopsy for a major salivary gland tumor?**
- a) Open surgical biopsy to allow histology.
 - b) Salivary washings.
 - c) Frozen section during formal excision.
 - d) Fine-needle aspiration cytology (FNAC).
- 24. Correct statements about adenolymphoma include the following EXCEPT:**
- a) Occurs in the superficial lobe of the parotid gland.
 - b) Is commonest between 40 and 60 years of age.
 - c) Consists of multiple cystic areas filled with mucoid material.
 - d) Is best treated by simple enucleation.
- 25. Which of the following conditions is associated with ascending bacterial sialadenitis?**
- a) Dental abscess.
 - b) Oral thrush.
 - c) Dehydration.
 - d) Otitis media.
- 26. Which of the following bacteria is the most common cause of bacterial sialadenitis?**
- a) Staph. Auerus.
 - b) Staph. Epidermidis.
 - c) Strept. Pyogens.
 - d) Pseudomonas.

- 27. Which is the most common site for a parotid tumor?**
- a) At the anterior border of the masseter.
 - b) Inferior to the angle of the mandible.
 - c) As a parapharyngeal mass.
 - d) Behind the angle of the mandible.
- 28. How should a benign tumor involving the tail of the parotid be managed?**
- a) Enucleation.
 - b) Open biopsy prior to surgical excision.
 - c) Superficial parotidectomy.
 - d) Radiotherapy.
- 29. Which nerve must be transected as part of a superficial parotidectomy?**
- a) The facial nerve.
 - b) The hypoglossal nerve.
 - c) The auriculo-temporal nerve.
 - d) The greater auricular nerve.
- 30. In a 4-year old child with recurrent bilateral parotid swelling made worse on eating, what is the most likely diagnosis?**
- a) Sialolithiasis.
 - b) Recurrent parotitis of childhood.
 - c) Salivary duct stricture.
 - d) Sjogren syndrome.
- 31. A businessman notices a lump in front of his ear while shaving one morning. His wife thinks it has been there for several months. What is the most likely cause of a mass in the parotid gland in this patient?**
- a) Lymphoma
 - b) Squamous cell carcinoma
 - c) Metastatic skin cancer
 - d) Benign mixed tumor
- 32. Chronic sialadenitis of submandibular gland is characterized by all of the following EXCEPT:**
- a) Increase in size of swelling during eating
 - b) Swelling cannot be rolled over edge of mandible
 - c) Bimanual examination reveal that swelling is filling the floor of the mouth
 - d) It is soft in consistency
- 33. A 25-year-old woman presents with a slowly growing mass on the side of the face. Clinical examination demonstrates that the mass is located in the tail of the parotid gland. There is no evidence of facial nerve involvement. What is the most likely cause?**
- a) Sialolithiasis.
 - b) Adenocarcinoma.
 - c) Warthin's tumor.
 - d) Pleomorphic adenoma.
- 34. A 45 year old woman is diagnosed with a submandibular calculus. Which structure is likely to be obstructed?**
- a) Warthin's duct
 - b) Stensen's duct
 - c) Biliary duct
 - d) Lingual duct

35. Which of the following statements is true regarding the anatomy of the salivary glands?

- a) The paired submandibular glands are the largest of the major salivary glands in the head and neck and are located in the submandibular triangle just inferior to the body of the mandible.
- b) The retromandibular vein lies deep to the deep lobe of the parotid gland.
- c) Anatomic landmarks used for identifying the main trunk of the facial nerve during parotid surgery include the tympanomastoid suture line, the tragal pointer, and the posterior belly of the digastric muscle.
- d) The three major nerves most at risk for direct injury during surgery on the submandibular gland include the hypoglossal nerve, spinal accessory nerve, and lingual nerve.

36. Which statement is most accurate regarding the histology of the head and neck?

- a) The pharynx is lined exclusively by non-keratinizing stratified squamous epithelium.
- b) The minor salivary glands lie in the submucosa of the oral cavity and pharynx.
- c) The Waldeyer ring consists of only two structures: the palatine tonsils and adenoids.
- d) The adenoids have crypts lined by stratified squamous epithelium.

37. Which of the following statements is true regarding salivary gland tumors?

- a) Approximately 80% of submandibular gland tumors are malignant.
- b) The most common location for adenoid cystic carcinoma is the parotid gland.
- c) Treatment of a pleomorphic adenoma of the parotid gland usually involves radical parotidectomy.
- d) The most common malignant salivary gland neoplasm is mucoepidermoid carcinoma.

38. The following salivary gland(s) secrete viscid secretion rich in Ca^{++} :

- a) Parotid.
- b) Submandibular.
- c) Accessory glands.
- d) All of the above.

39. Serous salivary secretion is produced by:

- a) Parotid gland.
- b) Submandibular gland.
- c) Sublingual gland.
- d) None of the above.

40. Parotid gland is the most common salivary gland affected by following pathologies EXCEPT:

- a) Acute bacterial sialadenitis.
- b) Adenolymphoma (Warthin's tumor).
- c) Salivary stones.
- d) Pleomorphic adenoma.

41. Regarding Warthin's tumor (adenolymphoma) of the salivary glands true, EXCEPT:

- a) Is a malignant neoplasm.
- b) Is a frequently cystic
- c) More common in the parotid
- d) Produces a hot spot in a ⁹⁹Tc pertechnetate scan

42. Warthin's tumor refers to:

- a) Pleomorphic adenoma
- b) Mucoepidermoid tumor
- c) Adenolymphoma
- d) Adenoid cystic carcinoma

43. The most common salivary tumour is:

- a) Pleomorphic adenoma
- b) Epidermoid carcinoma
- c) Adenolymphoma
- d) Adenocarcinoma

44. All these structures are found in the parotid gland, EXCEPT:

- a) Retromandibular vein.
- b) Parotid lymph node.
- c) Internal carotid artery.
- d) The facial nerve.

45. These structures pass through the parotid gland EXCEPT:

- a) Facial nerve
- b) External jugular vein.
- c) External carotid artery
- d) Posterior facial vein.

46. Which of the following structures does not lie in the parotid gland?

- a) The facial nerve.
- b) The retromandibular vein.
- c) Terminal branches of the external carotid.
- d) The glossopharyngeal nerve.

47. Regarding acute bacterial sialadenitis of the parotid gland, the wrong statement is:

- a) The commonest organism is streptococci.
- b) There is pain and swelling in the side of the face.
- c) Pain becomes throbbing if an abscess is formed.
- d) Drainage is by Hilton's method.
- e) Antibiotics are required.

48. Which of the following is NOT a feature of salivary malignancy?

- a) Facial nerve weakness.
- b) Rapid enlargement.
- c) Rubbery consistency.
- d) Induration of the overlying skin.

49. Which of the following is not a branch of facial nerve?

- a) Temporal.
- b) Orbital.
- c) Zygomatic.
- d) Buccal.

50. 80% of all salivary stone occur in:

- a) Parotid salivary gland.
- b) Submandibular salivary gland.
- c) Sublingual salivary gland.
- d) Minor salivary glands.

51. Common benign salivary neoplasm include all EXCEPT:

- a) Pleomorphic adenoma
- b) Adenolymphoma
- c) Lymphoma
- d) Monomorphic adenoma

52. If a patient presented with enlarged cervical nodes. You need to do all of the following EXCEPT:

- a) Examine the mouth, pharynx and nose
- b) Examine the abdomen
- c) Examine the breast
- d) Reassure the patient and give a course of antibiotics

53. Malignant parotid tumor is characterized by:

- a) Pain.
- b) Hard and fixed mass.
- c) Paralysis of facial muscles.
- d) All of the above.

54. Adenolymphomas are common to:

- a) Parotid gland.
- b) Submandibular gland.
- c) Minor salivary glands.
- d) All of the above.

55. Parotid duct opens into mouth opposite:

- a) Upper third molar.
- b) Upper second molar.
- c) Behind third molar.
- d) Near to midline of hard palate.

56. About anatomy of the parotid gland, all the following statements are true, EXCEPT:

- a) The parotid gland is wrapped around the ramus of the mandible.
- b) The ramus of the mandible divides the parotid into two surgical parts, superficial & deep.
- c) The parotid duct opens into the vestibule of mouth opposite the upper 2nd molar tooth.
- d) The external carotid artery divides within the gland substance into the maxillary and superficial temporal arteries.

57. The possible complications of submandibular sialadenectomy include all the following, EXCEPT:

- a) Wound hematoma.
- b) Deviation of the tongue to the operation side when protruded.
- c) Drooping of the angle of the mouth on the side of surgery.
- d) Inability to close the eyelids on the side of the operation.

58. About adenolymphoma, all the following statements are true, EXCEPT:

- a) The tumor is related to smoking.
- b) It may be bilateral.
- c) It has epithelial and lymphoid components.
- d) Facial nerve palsy is characteristic of this tumor.

59. A 55-year-old female presented with a large lobulated solid mass in her left parotid region. It has been present for 20 years, slowly increasing in size and was entirely painless. The most probable diagnosis is:

- a) Adamantinoma of the jaw.
- b) Osteoclastoma of the mandible.
- c) Pleomorphic adenoma of the parotid.
- d) Adenolymphoma of the parotid.

60. Pleomorphic adenoma:

- a) Is mixed benign tumors of the parotid gland.
- b) It affects mainly the deep lobe of the parotid.
- c) Facial nerve palsy is a common complication.
- d) Is treated by simple enucleation.

61. A 43-year-old teacher underwent left parotidectomy. Upon awakening from surgery, paralysis of the left lower lip was observed. This complication was most likely due to injury to which of the following:

- a) Parotid duct
- b) Facial nerve- Main trunk
- c) Facial nerve- Temporal branch
- d) Facial nerve- Cervical branch

62. While shaving, a 45-year-old teacher notices a marble-sized mass beneath his left ear. The mass is eventually excised, revealing which of the following benign parotid gland lesions?

- a) Glandular hypertrophy, secondary to vitamin A deficiency
- b) Cystic dilation
- c) Pleomorphic adenoma
- d) Papillary cystadenoma (Warthin's tumor)

4- The Thyroid gland

1. C-cells in the thyroid gland are derived from:

- a) Neural crest.
- b) Thyroglossal duct.
- c) Ultimobranchial body.
- d) Fourth pharyngeal pouch.

2. The superior thyroid artery is closely related to the following nerve:

- a) Hypoglossal nerve.
- b) Glossopharyngeal nerve.
- c) Recurrent laryngeal nerve.
- d) External laryngeal nerve.

3. The recurrent laryngeal nerve is closely related to:

- a) Thyrocervical trunk.
- b) Middle thyroid artery.
- c) Superior thyroid artery.
- d) Inferior thyroid artery.

4. The most common location of a thyroglossal cyst is:

- a) Subhyoid.
- b) Suprahyoid.
- c) Sublingual.
- d) Over the thyroid cartilage.

5. The correct sequence of events for the metabolism of iodine and synthesis thyroid hormone is:

- a) Trapping, organification, coupling, release, oxidation.
- b) Oxidation, trapping, coupling, organification, release.
- c) Coupling, organification, trapping, oxidation, release.
- d) Trapping, oxidation, organification, coupling, release.

6. The number of parathyroid glands is:

- a) 2
- b) 4
- c) 6
- d) 8

7. Which of the following is not true about the arterial supply of the thyroid?

- a) The superior thyroid arises from the external carotid,
- b) The inferior thyroid arises from the subclavian artery.
- c) The middle thyroid arises from the external carotid.
- d) The thyroid Ima thyroid arises from the aortic arch.

8. The inferior parathyroid glands are derived from the

- a) 1st branchial pouch
- b) 2nd branchial pouch
- c) 3rd branchial pouch
- d) 4th branchial pouch

9. The daily requirement of iodine is:

- a) 60-70 µg.
- b) 80-90 µg.
- c) 100-125 µg.
- d) None of the above.

10. With regard to thyroid anatomy, which of the following statements is incorrect?

- a) The inferior thyroid artery arises directly from the external carotid artery.
- b) The ligament of Berry is located near the entry point of the RLN.
- c) Venous drainage of the thyroid gland is via the superior, middle, and inferior branches.
- d) The superior and middle thyroid veins drain into the jugular vein.

11. Thyroglossal fistula is:

- a) Always congenital
- b) Always acquired
- c) Could be congenital or acquired
- d) Located at the base of the tongue

12. Regarding thyroglossal cyst all are true, EXCEPT:

- a) May be present in any part of the thyroglossal tract
- b) Occupies the midline except in the region of the thyroid cartilage where the thyroglossal tract is pushed to one side.
- c) The swelling moves upwards on protrusion of the tongue,
- d) Does not move on swallowing

13. Presentations of ectopic thyroid include:

- a) Dysarthria.
- b) Midline neck swelling.
- c) Myxedema if removed by mistake.
- d) Any of the above.

14. The following are true regarding thyroglossal cyst EXCEPT:

- a) Usually presents as midline neck swelling.
- b) May be confused with ectopic thyroid.
- c) Best treatment is follow up.
- d) Should be excised completely for fear of complications.

15. A thyroglossal duct cyst is a remnant structure?

- a) Thyrocervical trunk.
- b) The 4th brachial pouch.
- c) The track of the thyroid from the tongue base to the neck.
- d) The track of the thymus through the neck in to the mediastinum.

16. A 5-year-old girl presents with difficulty breathing. On examination, of the oral cavity a 3-cm mass is found in the midline on the posterior aspect of the tongue. The most likely diagnosis is:

- a) Lingual tonsil
- b) Lingual thyroid
- c) Angioneurotic edema
- d) Foreign body stuck to the tongue

17. Which of the following statements regarding venous drainage of the thyroid gland is INCORRECT?

- a) The superior thyroid vein drains into the internal jugular vein.
- b) The inferior thyroid vein drains into the brachiocephalic vein.
- c) The middle thyroid vein drains into the brachiocephalic vein.
- d) None of the above.

18. The untrue statement about thyroglossal cyst is that it:

- a) Results from an unobliterated portion of the thyroglossal duct.
- b) Moves upwards during protrusion of the tongue.
- c) Is lined by transitional epithelium.
- d) Is filled with mucoid fluid rich in cholesterol crystals.

19. Most diagnostic single investigation for toxic adenoma is:

- a) US.
- b) T3, T4.
- c) FNABC.
- d) Thyroid scan.

20. Preparation of retrosternal goitre for surgery includes:

- a) Neomercazole.
- b) Propranolol.
- c) Lugol's iodine.
- d) All of the above.

21. Iodine alone is not used in the preoperative preparation of a thyrotoxic patient because:

- a) It can make thyrotoxicosis worse.
- b) It can increase the vascularity of goitre.
- c) Rapid control of thyrotoxicosis is not possible.
- d) None of the above.

- 22. A 45 years old female patient presents with acute confusion, abdominal pain; vomiting and dehydration. Electrocardiogram shows prolonged P interval and shortened QT interval. The most likely electrolyte abnormality is:**
- a) Hyponatraemia.
 - b) Hypokalaemia.
 - c) Hypocalcaemia.
 - d) Hypomagnesaemia.
- 23. Which of the following statements regarding the use of I131 blockers in the preoperative preparation of thyrotoxic patients is INCORRECT?**
- a) It acts rapidly.
 - b) It should be stopped just after surgery.
 - c) It inhibits the peripheral conversion of T4 to T3.
 - d) It abolishes the clinical manifestations of sympathetic over-activity.
- 24. The reason why the inferior thyroid artery is not routinely ligated during thyroidectomy is:**
- a) To avoid injury to the parathyroid glands.
 - b) To avoid injury to the recurrent laryngeal nerve.
 - c) To avoid injury to the external laryngeal nerve.
 - d) To preserve the blood supply to the parathyroid glands.
- 25. The complications associated with thyroglossal cyst include all of the following, EXCEPT:**
- a) Malignancy.
 - b) Thyrotoxicosis.
 - c) Abscess formation
 - d) Thyroglossal sinus/fistula.
- 26. Which one of the following statements regarding sestamibi scan is INCORRECT?**
- a) Sestamibi is a derivative of technetium.
 - b) The large number of mitochondria in a hyperactive gland allows intense labeling with sestamibi.
 - c) It is associated with a low dose of radiation and high-definition Imaging.
 - d) It is highly sensitive and specific in the localization of parathyroid adenoma following previous parathyroid surgery
- 27. The imaging method useful in the localization of recurrent primary hyperparathyroidism following previous surgery is:**
- a) CT scan.
 - b) Ultrasound.
 - c) Sestamibi scan.
 - d) Magnetic resonance imaging (MRI).
- 28. The treatment of choice in a patient with normocalcaemic hyperparathyroidism is:**
- a) Parathyroidectomy.
 - b) Calcium supplementation.
 - c) Treatment with calcineurin.
 - d) Administration of 1,25 dihydroxycholecalciferol.

- 29. The common cause of hypercalcaemia in non-hospitalized patients is:**
- a) Malignancy.
 - b) Iatrogenic.
 - c) Milk alkali syndrome.
 - d) Primary hyperparathyroidism.
- 30. All of the following features will help in the differentiation of para-thyroid carcinoma from parathyroid adenoma, EXCEPT:**
- a) Distant metastasis.
 - b) Presence of palpable mass.
 - c) Presence of high Serum calcium levels.
 - d) Involvement of recurrent laryngeal nerve.
- 31. The following feature is not associated with primary thyrotoxicosis?**
- a) Goiter is diffuse and vascular.
 - b) Exophthalmos is more common.
 - c) Cardiac failure is more common.
 - d) None of the above.
- 32. The treatment of choice for a 35-year-old pregnant female with thyrotoxicosis is:**
- a) Surgery.
 - b) β -blockers.
 - c) Radioactive iodine.
 - d) Anti-thyroid drugs.
- 33. The preferred treatment of choice in a child with thyrotoxicosis is:**
- a) Radioactive iodine.
 - b) Total thyroidectomy.
 - c) Anti-thyroid drugs.
 - d) Subtotal thyroidectomy.
- 34. The most common cause of hypercalcemic crisis is:**
- a) Paget's disease.
 - b) Parathyroid hyperplasia.
 - c) Carcinoma of the breast.
 - d) Parathyroid adenoma.
- 35. Grave's disease is due to:**
- a) Hypersecretion of thyroid stimulating hormone.
 - b) Abnormal thyroid stimulating antibodies.
 - c) Increase secretion of thyroxine.
 - d) Anti-mitochondrial antibodies.
- 36. Autoimmune manifestations of Grave's disease include the following, except:**
- a) Palmar erythema.
 - b) Pretibial myxedema.
 - c) Exophthalmos.
 - d) Clubbing.
- 37. Sporadic goitre may occur due to the following EXCEPT:**
- a) Cabbage.
 - b) Perchlorates.
 - c) Iodine deficiency.
 - d) Water pollution by excreta.
- 38. All of the following are recognized complications of neomercazole, EXCEPT:**
- a) Goitre.
 - b) Renal failure.
 - c) Hepatotoxicity.
 - d) Agranulocytosis.

- 39. The antithyroid drug of choice in the preoperative preparation of a thyrotoxic patient is:**
- a) Propranolol.
 - b) Lugol's iodine.
 - c) Carbimazole.
 - d) Propyl thiouracil.
- 40. Thyrotoxicosis in children all correct EXCEPT:**
- a) Usually goes into spontaneous remission.
 - b) Medical treatment alone can control the disease.
 - c) Radioactive iodine is the ideal treatment.
 - d) Thyroidectomy should be near total to avoid recurrence.
- 41. Which of the following treatment schedule for diffuse toxic goitre is TRUE?**
- a) Over 45 years: radioactive iodine.
 - b) Under 45 years: with small goitre: antithyroid drugs
 - c) Under 45 years: with large goitre: surgery.
 - d) All of the above.
- 42. Toxic goitre has the following signs, EXCEPT:**
- a) Diarrhea.
 - b) Exophthalmos.
 - c) Menstrual Irregularities.
 - d) Flapping tremors of the hand.
- 43. The best routine treatment for multinodular goitre is by:**
- a) Hemithyroidectomy.
 - b) Subtotal thyroidectomy.
 - c) Bilateral wedge resection.
 - d) Partial thyroidectomy.
- 44. Among the following statements about retrosternal goitre, the false one is that it:**
- a) Usually arises in aberrant intrathoracic thyroid tissue.
 - b) Is particularly common in males.
 - c) May present with symptoms of mediastinal compression (syndrome).
 - d) Is often associated with palpable enlargement of the thyroid.
- 45. Medical treatment of thyrotoxicosis is least useful in:**
- a) Uncomplicated thyrocardiac patients.
 - b) Cases with true exophthalmos.
 - c) Post-operative recurrence.
 - d) Secondary thyrotoxicosis.
- 46. Thyrotoxicosis during pregnancy is best treated by:**
- a) Subtotal thyroidectomy.
 - b) Propylthiouracil.
 - c) Lugol's iodine.
 - d) Beta blockers.
- 47. The following statements about treatment of thyrotoxicosis by radioactive iodine are true EXCEPT that it:**
- a) Is particularly useful in elderly and thyrocardiac patients.
 - b) Is contraindicated in patients below the age of 40.
 - c) Produces its beneficial effects within a few days.
 - d) May be followed by myxedema.

48. Which of the following is indication for radioiodine treatment?

- a) Severe ophthalmopathy.
- b) Relapsed Grave's disease.
- c) Thyrotoxicosis in young children.
- d) All of the above.

49. Dilated veins over the thyroid indicate that the thyroid is:

- a) Toxic.
- b) Inflammatory goitre.
- c) Large simple nodular goitre.
- d) Having a retrosternal extension.

50. The main presentation of a patient with secondary toxic goiter is:

- a) Pretibial myxedema.
- b) True exophthalmos.
- c) Palpitation and arrhythmias.
- d) Weight loss despite of good appetite.

51. In physiological goiter, the following statements are true EXCEPT that it:

- a) Usually resolves spontaneously.
- b) Affects females more often than males.
- c) Presents as fullness of the neck (Venus neck)
- d) May be associated with toxic or pressure symptoms.

52. The treatment of choice in toxic nodular goiter is:

- a) Inderal.
- b) Surgery.
- c) Anti-thyroid drugs.
- d) Radioactive iodine.

53. The thyroid stimulating antibody is:

- a) IgA.
- b) IgD.
- c) IgG.
- d) IgM.

54. Which of the following regarding retrosternal goitre is UNTRUE?

- a) Often symptomless and is discovered on a routine chest radiograph.
- b) Many of these patients attend chest clinic with diagnosis of asthma.
- c) In severe cases there may be obstruction of the superior vena cava.
- d) Recurrent laryngeal nerve paralysis is very common.

55. True regarding Von Grave's sign:

- a) Lagging behind of the upper eyelid.
- b) Retraction of the upper eyelid with infrequent wrinkling.
- c) Absence of wrinkling of the forehead.
- d) Convergence of the eyes is difficult

56. Surgery is the treatment of choice in toxic nodular goitre because of the following, EXCEPT:

- a) Does not respond to radioiodine rapidly.
- b) Does not respond to antithyroid drugs rapidly.
- c) Enlargement continues to occur even with anti-thyroid drugs.
- d) None of the above.

- 57. Which of the antibodies is diagnostic of patients with Graves' disease?**
- a) Antithyroglobulin (anti-TGAb).
 - b) TSH receptor antibody (anti-TSAb).
 - c) Antithyroid peroxidase (anti-TPOAb).
 - d) Anti-DNA antibodies (antinuclear).
- 58. Hashimoto disease may present by:**
- a) Goitre.
 - b) Myxedema.
 - c) Thyrotoxicosis.
 - d) Any of the above.
- 59. The following type of thyroiditis mimics malignancy:**
- a) Hashimoto thyroiditis.
 - b) De Quervain's thyroiditis.
 - c) Riedel thyroiditis.
 - d) All of the above.
- 60. In subacute thyroiditis (de Quervain's disease), it is UNTRUE that it:**
- a) Has a sudden onset with fever and painful swelling of the gland.
 - b) Is a virus infection related to influenza or mumps.
 - c) Never resolves spontaneously.
 - d) Responds well to prednisone.
- 61. All the following are true as regard Hashimoto's thyroiditis, EXCEPT:**
- a) The gland may be diffusely enlarged with hypothyroidism.
 - b) Associated with increase in thyroid auto-antibodies.
 - c) Associated with diffuse lymphocytic infiltration.
 - d) Increase the risk of follicular carcinoma.
- 62. Hashimoto's thyroiditis, all are true, EXCEPT:**
- a) Is an autoimmune disease.
 - b) Increases the risk of thyroid lymphoma.
 - c) Often presents as a solitary thyroid nodule.
 - d) Anti-thyroglobulin and anti-microsomal antibodies may be increased.
- 63. Regarding Hashimoto's thyroiditis all the following are true, EXCEPT:**
- a) The thyroid is infiltrated with lymphocytes & plasma cells
 - b) Serum anti-thyroglobulin & anti-microsomal antibodies are raised
 - c) Patients eventually become hyperthyroid
 - d) Increase the risk of thyroid lymphoma
- 64. An elderly woman with previous history of Hashimoto's thyroiditis presents with an irregular, hard nodule in her right thyroid lobe.**
- a) Lymphoma
 - b) Anaplastic carcinoma.
 - c) Medullary carcinoma.
 - d) Papillary thyroid cancer
- 65. The most common cause of primary hyperthyroidism is:**
- a) Multiple parathyroid adenomas.
 - b) Single parathyroid adenoma.
 - c) Parathyroid hyperplasia.
 - d) Parathyroid carcinoma.

- 66. The most sensitive and specific imaging method for the localization of a parathyroid adenoma is:**
- a) CT of the neck.
 - b) Sestamibi scan.
 - c) Thallium technetium pertechnetate scan.
 - d) Magnetic resonance imaging (MRI) of neck and chest.
- 67. Which of the following statements regarding tertiary hyperparathyroidism is INCORRECT?**
- a) It resolves spontaneously in over 60% of cases.
 - b) It is due to antibody production against parathyroid hormone (PTH).
 - c) Surgery is only indicated for persistent hypercalcaemia after 12 months of observation.
 - d) It is usually seen in patients with chronic renal failure after kidney transplantation.
- 68. After initial bilateral exploration of the neck for the parathyroid glands, a further search should not be continued if:**
- a) All four glands are discovered and are normal.
 - b) Fewer than four glands are discovered and at least two are enlarged.
 - c) All four glands have been discovered and one or more are abnormal.
 - d) No gland or fewer than four glands have been discovered and none is pathological.
- 69. The most common cause of secondary hyperparathyroidism is:**
- a) Rickets.
 - b) Osteoporosis.
 - c) Hypermagnesemia.
 - d) Chronic renal failure.
- 70. Secondary hyperparathyroidism is associated with:**
- a) Hypocalcaemia and hypophosphatemia.
 - b) Decreased bony resistance to PTH.
 - c) Decreased synthesis of calcitriol.
 - d) None of the above.
- 71. The initial treatment of choice for Riedel's thyroiditis is:**
- a) Observation.
 - b) Corticosteroids.
 - c) Antibiotics.
 - d) Surgery.
- 72. With regard to Hashimoto thyroiditis, which of the following is true?**
- a) The majorities of patients are transiently hypothyroid but with time return to a euthyroid state.
 - b) Radioactive iodine is useful in the treatment of Hashimoto thyroiditis.
 - c) Thyroid microsomal antibodies are detected in the serum of patients.
 - d) It is primarily treated surgically.

73. The anatomical landmark useful in the localization of the superior parathyroid gland is:

- a) Recurrent laryngeal nerve.
- b) External laryngeal nerve.
- c) Inferior cornu of the thyroid cartilage.
- d) Pharyngeal branch of the inferior thyroid artery.

74. Which one of the following statements regarding multiple endocrine neoplasia (MEN)-IIa syndrome is INCORRECT?

- a) Aggressive resection of the parathyroid gland is not recommended.
- b) The majority of patients with MEN-IIa often have multiglandular disease.
- c) Pheochromocytoma should be excluded before treating hyperparathyroidism.
- d) Primary hyperparathyroidism associated with MEN-IIa is more aggressive than in MEN-I.

75. All of the following are functions of parathyroid hormone, EXCEPT:

- a) It increases serum calcium levels by increasing the turnover of bone.
- b) It inhibits renal tubular secretion of phosphate and bicarbonate.
- c) It increases the serum calcium level by increasing the absorption of calcium from the kidneys.
- d) It helps in the hydroxylation of 25-hydroxycholecalciferol to 1, 25 dihydroxycholecalciferol.

76. The hormone that is a physiological antagonist to parathyroid hormone is:

- a) Thyroxine.
- b) Calcitonin.
- c) Glucocorticoids.
- d) 1, 25 dihydroxycholecalciferol.

77. Indications for parathyroidectomy in secondary hyperparathyroidism are:

- a) Failed medical treatment.
- b) Intractable bony pain.
- c) Asymptomatic ectopic calcification.
- d) a and b.

78. The most common symptom associated with hyperparathyroidism is:

- a) Fatigue.
- b) Constipation.
- c) Hypertension.
- d) Abdominal pain.

79. Which of the following statements is incorrect regarding the embryology of the inferior parathyroid glands?

- a) They have a short pathway of descent.
- b) They develop from the third pharyngeal pouch.
- c) Their location varies widely compared to the superior parathyroid glands.
- d) 50% of inferior parathyroid glands are located in the vicinity of the inferior thyroid pole.

- 80. Which of the following group of patients have the highest incidence of hypercalcaemia following parathyroidectomy?**
- a) Familial hyperparathyroidism.
 - b) Primary hyperparathyroidism due to adenoma.
 - c) Patients with normocalcemic hyperparathyroidism.
 - d) Primary hyperparathyroidism due to multiglandular hyperplasia.
- 81. The main risk of parathyroid surgery in a patient with multiple endocrine neoplasia (MEN)-IIa is:**
- a) Hypercalcaemia.
 - b) Hypoparathyroidism.
 - c) Recurrence of symptoms.
 - d) Recurrent laryngeal nerve injury.
- 82. Which of the following groups of patients with papillary thyroid cancer have the worst prognosis?**
- a) Women aged 50 and younger.
 - b) Older patients with tumor <5 cm.
 - c) Patients with distant metastasis.
 - d) Patients with intrathyroid papillary carcinoma.
- 83. The second most common location of the inferior parathyroid gland is:**
- a) Retrotracheal.
 - b) Retroesophageal.
 - c) Along the thyrothymic ligament.
 - d) Just behind the inferior pole of the thyroid gland.
- 84. The superior parathyroid gland develops from:**
- a) Ultimobronchial body.
 - b) Sixth pharyngeal pouch.
 - c) Fourth pharyngeal pouch.
 - d) Third parapharyngeal pouch.
- 85. The thyroid cancer that is associated with multiple endocrine neoplasia (MEN) is:**
- a) Follicular carcinoma.
 - b) Papillary carcinoma.
 - c) Anaplastic carcinoma.
 - d) Medullary carcinoma.
- 86. The most common type of thyroid cancer in females is:**
- a) Follicular carcinoma.
 - b) Medullary carcinoma.
 - c) Anaplastic carcinoma.
 - d) Papillary carcinoma.
- 87. The thyroid cancer that originates from C-cells is:**
- a) Papillary carcinoma.
 - b) Follicular carcinoma.
 - c) Anaplastic carcinoma.
 - d) Medullary carcinoma.
- 88. The agent used as second-line therapy in the treatment of hypercalcaemia is:**
- a) Calcitonin.
 - b) Pamidronate.
 - c) Loop diuretics.
 - d) Glucocorticoids.

- 89. The follow-up of patients with parathyroid carcinoma is mainly done by:**
- a) CT scan of the neck.
 - b) Measuring calcitonin.
 - c) Ultrasound of the neck.
 - d) Measuring serum calcium.
- 90. The superior thyroid artery is a branch of the:**
- a) Thyrocervical trunk.
 - b) Internal carotid artery.
 - c) Brachiocephalic trunk.
 - d) External carotid artery.
- 91. The inferior thyroid artery is a branch of the:**
- a) External carotid artery.
 - b) Thyrocervical trunk.
 - c) Internal carotid artery.
 - d) Brachiocephalic trunk.
- 92. Thyroid stimulating hormone (TSH) is released from the:**
- a) Thalamus.
 - b) Hypothalamus.
 - c) Posterior pituitary gland.
 - d) Anterior pituitary gland.
- 93. Medullary thyroid cancer is associated with germ line mutations of which of the following oncogenes:**
- a) RET proto-oncogene.
 - b) K-ras oncogene.
 - c) C-erb.
 - d) ABL
- 94. Which one of the following statements regarding the anatomy of the recurrent laryngeal nerve is INCORRECT?**
- a) It is a branch of the glossopharyngeal nerve.
 - b) It curves around the sixth aortic arch on the left side.
 - c) It curves around the subclavian artery on the right side.
 - d) A non-recurrent laryngeal nerve is nearly always observed on the right side.
- 95. All the following are characteristic features of follicular carcinoma, EXCEPT:**
- a) It commonly affects females.
 - b) Lymph node involvement is rare.
 - c) Hürthle cell variant is associated with a greater propensity for multifocality.
 - d) Fine-needle aspiration cytology is associated with high sensitivity and specificity for the diagnosis of follicular carcinoma.
- 96. Which one of the following factors does not affect the prognosis of well-differentiated thyroid cancer?**
- a) Age of the patient.
 - b) Grade of the tumor.
 - c) Extent and size of the tumor.
 - d) Lymph node involvement.
- 97. The marker that is useful for detecting recurrence of a well differentiated thyroid cancer is:**
- a) Free T3.
 - b) Bound T3.
 - c) Calcitonin.
 - d) Thyroglobulin.

- 98. Follicular carcinoma can be differentiated from follicular adenoma by:**
- a) Presence of capsular invasion.
 - b) Presence of vascular invasion.
 - c) Presence of mitotic figures.
 - d) a and b.
- 99. Which one of the following statements regarding follicular carcinoma is incorrect?**
- a) It is more common in females.
 - b) It spreads mainly via the lymphatics.
 - c) It is the second most common thyroid cancer.
 - d) Previous irradiation of the neck is a risk factor.
- 100. The metabolic effect of thyroid hormone is exerted mainly by:**
- a) Free T₄.
 - b) Free T₃.
 - c) Bound T₄.
 - d) Free T₃ and T₄.
- 101. The diuretic used in the first-line treatment of hypercalcaemia is:**
- a) Furosemide.
 - b) Spironolactone.
 - c) Bendroflumethiazide.
 - d) None of the above.
- 102. Iodine radioisotope scanning is not useful in the:**
- a) Diagnosis of a solitary toxic nodule.
 - b) Localization of ectopic thyroid tissue.
 - c) Diagnosis of toxic multinodular goiter (MNG).
 - d) Diagnosis of medullary thyroid carcinoma.
- 103. Serum thyroxine binding protein is increased with all of the following, EXCEPT:**
- a) Pregnancy.
 - b) Estrogens.
 - c) Nephrotic syndrome.
 - d) Oral contraceptive pills.
- 104. The treatment of choice in a patient with well differentiated thyroid cancer is:**
- a) Total thyroidectomy.
 - b) Subtotal thyroidectomy,
 - c) Total thyroidectomy and modified neck dissection.
 - d) Hemi-thyroidectomy and berry picking of lymph nodes.
- 105. The most common presentation of well-differentiated thyroid cancer is:**
- a) Solitary thyroid nodule.
 - b) Screening ultrasound of neck
 - c) Solitary palpable cervical lymph node.
 - d) Dominant nodule in a multinodular goiter.
- 106. Which of the following statements regarding medullary thyroid cancer (MTC) is INCORRECT?**
- a) 80% of the cases are familial.
 - b) Calcitonin is used as a tumor marker.
 - c) It originates from parafollicular cells.
 - d) It is an autosomal dominant condition.

- 107. I^{131} scan is useful in the detection of metastatic disease following total thyroidectomy in all of the following thyroid cancers, EXCEPT:**
- a) Papillary cancer.
 - b) Follicular cancer.
 - c) Hürtle cell tumor.
 - d) Minimally invasive follicular carcinoma.
- 108. Medullary thyroid cancer (MTC) associated with worst prognosis is:**
- a) MTC associated with MEN-IIa syndrome.
 - b) MTC associated with MEN-IIb syndrome.
 - c) Sporadic MTC.
 - d) b and c.
- 109. Which of the following statements regarding anaplastic carcinoma is INCORRECT?**
- a) Prognosis is frequently poor.
 - b) Peak incidence is between 60-70 years of age.
 - c) Involvement of the surrounding structures is common.
 - d) Surgical resection is possible in most of the patients.
- 110. A 25 years old female presents with an acute painful thyroid swelling associated with malaise and fever following a recent sore throat. The most likely diagnosis is:**
- a) Acute thyroiditis.
 - b) Riedel's thyroiditis.
 - c) Sub-acute thyroiditis.
 - d) Autoimmune thyroiditis.
- 111. On histological examination, psammoma bodies are found in:**
- a) Follicular carcinoma.
 - b) Medullary carcinoma.
 - c) Anaplastic carcinoma.
 - d) Papillary carcinoma.
- 112. The type of thyroiditis that is associated with a high risk of lymphoma of the thyroid gland is:**
- a) Riedel's thyroiditis.
 - b) Sub-acute thyroiditis.
 - c) Hashimoto's thyroiditis.
 - d) Acute suppurative thyroiditis.
- 113. Damage to which of the following nerves results in a change in the pitch, range and projection of the voice?**
- a) Internal laryngeal nerve.
 - b) Glossopharyngeal nerve.
 - c) Recurrent laryngeal nerve.
 - d) External branch of superficial laryngeal nerve.
- 114. The external superficial laryngeal nerve is most likely to get damaged during:**
- a) Ligation and division of the middle thyroid vein.
 - b) Ligation and division of the inferior thyroid vein.
 - c) Separation of the thyroid isthmus from the trachea
 - d) Ligation and division of the superior thyroid vessels.

- 115. The most common tumors associated with multiple endocrine neoplasia (MEN)-I syndrome are:**
- a) Insulinomas.
 - b) Pituitary tumors.
 - c) Adrenal cortical tumors.
 - d) Parathyroid adenomas.
- 116. A thyroid nodule could be malignant if it shows:**
- a) Rapid growth
 - b) Associated hoarseness of voice
 - c) Pain referred to the ear
 - d) All of the above
- 117. Which of the following statement regarding follicular adenoma is TRUE?**
- a) It presents clinically as a solitary nodule.
 - b) In adenoma there is no invasion of the capsule or of pericapsular blood vessels.
 - c) Preferable treatment is lobectomy
 - d) All of the above.
- 118. In thyroid carcinoma, mediastinal node involvement is a feature of which type:**
- a) Follicular.
 - b) Anaplastic.
 - c) Papillary.
 - d) Medullary.
- 119. The term lateral aberrant thyroid really implies:**
- a) A type of brachial cyst
 - b) A metastasis from carcinoma of the larynx
 - c) Congenital aberrant thyroid tissue lateral to the thyroid
 - d) A metastasis in a cervical lymph node from an occult thyroid carcinoma
- 120. Hoarseness of voice denote**
- a) Compression of the superior laryngeal nerve.
 - b) Infiltration of the recurrent laryngeal nerve.
 - c) Infiltration of the superior laryngeal nerve.
 - d) Tracheal compression.
- 121. A 17-year-old girl presented with a 2.5 cm nodule in the right lobe of the thyroid gland and enlarged three cervical LNs confirmed by US. FNA cytology revealed malignant cells with vesicular nuclei, the most probable diagnosis is:**
- a) Papillary carcinoma
 - b) Anaplastic carcinoma
 - c) Medullary carcinoma
 - d) Follicular carcinoma
- 122. The most frequent variety of thyroid cancer is:**
- a) Follicular carcinoma
 - b) Anaplastic carcinoma
 - c) Papillary carcinoma
 - d) Medullary carcinoma

123. Thyroid carcinoma during pregnancy, appropriate treatment is:

- a) Surgery.
- b) radioiodine 131.
- c) Chemotherapy.
- d) Wait for delivery.

124. True statements about papillary carcinoma of the thyroid do NOT include that it:

- a) Is a slow-growing tumor.
- b) Often affects adolescents.
- c) May be hormone-dependent.
- d) Metastasize early by the blood stream.

125. Hypertension in a patient with a family history of medullary thyroid carcinoma is most often due to:

- a) Hyperparathyroidism.
- b) Glomerulonephritis.
- c) Pheochromocytoma.
- d) Cushing's syndrome.

126. All of the following are true, EXCEPT:

- a) Lymph node metastases more common in follicular carcinoma than papillary carcinoma.
- b) Papillary carcinoma is associated with increased incidence of lymph node metastases.
- c) Distant metastasis is commoner in the follicular variety.
- d) Papillary carcinoma is usually non-encapsulated and slow-growing

127. With regard to thyroid hormone synthesis, which of the following is true?

- a) Iodine trapping involves endocytosis of circulating iodine particles.
- b) In the euthyroid state, T₃ is the main hormone produced by the thyroid.
- c) Thyroglobulin is a glycoprotein synthesized in the rough endoplasmic reticulum of the thyrocyte.
- d) The primary site of peripheral de-iodination of T₄ to the active form T₃ occurs in the adrenal gland.

128. With regard to the recurrent laryngeal nerve (RLN), which of the following is TRUE?

- a) The left RLN loops around the subclavian vein and ascends medially into-the neck.
- b) The right RLN loops around the inferior thyroid artery, ascends laterally to medially, and enters the cricothyroid membrane.
- c) The laryngeal nerve is non-recurrent in 0.5% of patients.
- d) The RLNs innervate the true vocal cords and the cricothyroid muscles.

129. Routine work-up of thyroid function includes all EXCEPT:

- a) Thyroglobulin
- b) Total thyroxine (T₄)
- c) Free triiodothyronine (T₃)
- d) Thyroid-stimulating hormone (TSH)

- 130. Calcitonin is produced by the parafollicular cells of the thyroid gland. Measurement of calcitonin is essential in what disease process?**
- a) Graves' disease
 - b) Hashimoto disease
 - c) Medullary thyroid cancer
 - d) Papillary thyroid cancer
- 131. In primary hyperparathyroidism, all the following are increased, EXCEPT:**
- a) Serum calcium.
 - b) Serum phosphorus.
 - c) Urinary phosphorus excretion.
 - d) Serum alkaline phosphatase.
- 132. The most dangerous (although rare nowadays) complication of subtotal thyroidectomy for thyrotoxicosis is:**
- a) Hypoparathyroidism.
 - b) Post-operative thyroid crisis.
 - c) Injury to the recurrent laryngeal nerve.
 - d) Recurrence of thyrotoxic symptoms.
- 133. An 18-year-old girl presented with an enlarged supraclavicular lymph node without any other clinical manifestations. The node was removed and histological examination revealed well-differentiated normal thyroid tissue within its substance. This is most likely:**
- a) Riedel's disease.
 - b) De Quervain's disease.
 - c) Hashimoto's disease.
 - d) Lateral aberrant thyroid.
- 134. In thyroid all is correct, EXCEPT:**
- a) Thyroglossal fistula is always acquired.
 - b) De Quervan thyroiditis is mostly due to viral infection.
 - c) Hashimoto's thyroiditis does not lead to hypothyroidism.
 - d) Recurrent laryngeal nerve can be injured during thyroidectomy.
- 135. Which of the following is NOT a possible complication of thyroidectomy?**
- a) Laryngeal edema.
 - b) Hypercalcemia.
 - c) Hypothyroidism.
 - d) Superior laryngeal nerve palsy.
- 136. A patient with a 1 cm medullary carcinoma of the right lobe of thyroid and no clinically significant adenopathy is best treated by:**
- a) Total thyroidectomy with central lymph node dissection
 - b) Right thyroid lobectomy and isthmusectomy
 - c) Right thyroid lobectomy and subtotal left thyroidectomy
 - d) Total thyroidectomy
- 137. Which of the following is the investigation of choice to diagnose the pathology of solitary thyroid nodule?**
- a) Tru-cut needle biopsy
 - b) Fine needle aspiration cytology
 - c) Lobectomy and frozen section
 - d) Lobectomy and paraffin section

- 138. About management of a clinically simple multinodular goitre, all the following statements are true, EXCEPT:**
- a) Thyroid function tests are necessary.
 - b) A dominant thyroid nodule requires assessment with FNA.
 - c) Thyroid isotope scan is the imaging study of choice in this case.
 - d) A small uncomplicated simple nodular goitre may not need surgery.
- 139. A 17-year old female presents with a 3cm thyroid. FNA shows papillary structures. There is no evidence of metastases. The appropriate treatment is:**
- a) Thyroxine therapy.
 - b) Total thyroidectomy.
 - c) Hemithyroidectomy.
 - d) Radioactive iodine therapy.
- 140. Which of the following organisms is a common cause of acute (suppurative) thyroiditis?**
- a) Escherichia coli
 - b) Staphylococcus aureus
 - c) Streptococcus species
 - d) Pseudomonas aeruginous
- 141. Which of the following procedures should be performed routinely in a patient with a thyroid nodule who is clinically euthyroid?**
- a) FNAB and determination of a screening serum TSH level.
 - b) Measurement of radioiodine uptake and thyroid scintiscanning.
 - c) Measurement of serum T₄, triiodothyronine (T₃), and TSH levels.
 - d) Ultrasound examination of the thyroid gland to distinguish a solid from a cystic nodule.
- 142. Thyroid hormone receptors**
- a) Bind T₄
 - b) Bind T₃
 - c) Are present in the mitochondria
 - d) Are present on the cell membrane
- 143. Thyroxine (T₄) is composed of**
- a) Two Diiodotyrosine (DIT) molecules
 - b) One Diiodotyrosine (DIT) molecule and one Monoiodotyrosine (MIT) molecule
 - c) Four Monoiodotyrosine (MIT) molecules
 - d) None of the above
 - e)
- 144. In patients with elevated thyroglobulin after total thyroidectomy for thyroid cancer, many physicians recommend a dose of 100 mCi of I¹³¹. Which of the following is a reported complication of this treatment?**
- a) Sialadenitis
 - b) Cerebral edema
 - c) Vocal cord paralysis
 - d) Bone marrow suppression

- 145. Which of the following can be seen in the ophthalmopathy of Graves' disease?**
a) Chemosis b) Blindness c) Proptosis d) All of the above
- 146. Papillary thyroid cancer of the clear cell variant is associated with**
a) Werner's syndrome c) McCune-Albright syndrome
b) Cowden's syndrome d) Familial adenomatous polyposis
- 147. A middle-aged female presented with an asymptomatic nodule in the right lobe of the thyroid. She gave a history of irradiation in childhood. The nodule was cold on radioactive iodine scanning and the sonogram revealed that it was a solid mass. The appropriate management at this stage is:**
a) Right lobectomy. c) Subtotal thyroidectomy.
b) Aspiration biopsy. d) Total thyroidectomy.
- 148. A GP is having difficulty trying to treat a 62-year-old woman for hypothyroidism. Despite thyroxine dosage of 200 pg, her thyroid functions are suggestive of hypothyroidism.**
a) Myxoedema. b) Autoimmune thyroiditis.
c) Amiodarone-induced thyroid disease.
d) TSH-secreting adenomas (TSHoma) (pituitary tumor).
- 149. Which of the following is not true for Hashimoto thyroiditis?**
a) It is auto immune disease caused by CD4 cells with specificity to thyroid antigens
b) Hashimoto thyroiditis can progress to lymphoma of thyroid
c) Commonly presents as hypothyroidism
d) Surgery is required in almost all cases
- 150. The most common cause of hyperthyroidism is:**
a) Thyroiditis. c) Plummer's disease.
b) Graves' disease. d) Toxic multinodular goitre.
- 151. Which of the following statements regarding Hürthle cell carcinoma is false?**
a) It represents a subtype of follicular thyroid cancer.
b) It is more likely than follicular cancer to be multifocal.
c) It demonstrates poor radioactive iodine uptake
d) Lymph node dissection is indicated for all patients.
- 152. Thyroidectomy should be recommended for patients with Graves' disease who:**
a) Are of the male gender c) Have large asymptomatic goiters
b) Are > 55 years of age d) Have a suspicious thyroid nodule

- 153. A 24-year-old man has an incidentally discovered thyroid mass on CT performed during a recent visit to the emergency department for work-up of a fall at work. The patient undergoes neck ultrasonography. Which of the following features is most consistent with a benign mass?**
- a) Incomplete halo.
 - b) Irregular margins.
 - c) Hypoechoic lesion.
 - d) Peripheral calcifications.
- 154. Which of the following are true with regard to sick euthyroid syndrome?**
- a) TSH is usually suppressed.
 - b) It can present as high T₃ and T₄.
 - c) Thyroid replacement is favored.
 - d) Thyroid-stimulating hormone (TSH) may be high.
- 155. Which of the following are true regarding medical therapy for thyrotoxicosis?**
- a) Propranolol and nadolol reduce free T₃ (fT₃) and free T₄ (fT₄) levels.
 - b) Antithyroid drugs most often cure thyrotoxicosis due to a toxic nodule.
 - c) Carbimazole can be safely given in pregnancy and lactation.
 - d) Agranulocytosis is an uncommon problem that occurs with anti-thyroid drugs.
- 156. A 38-year-old woman is noted to have a 1.2 cm thyroid nodule. In which of the following situations would the results of thyroid scintigraphy most likely impact treatment?**
- a) Fine-needle aspiration biopsy (FNAB) results consistent with a malignant neoplasm
 - b) FNAB results consistent with a benign neoplasm
 - c) FNAB results consistent with a follicular neoplasm
 - d) Prior history of head or neck irradiation
- 157. A 40-year-old woman presents with a single thyroid nodule. Which of the following situations would be associated with the highest risk of malignancy?**
- a) A prior history of head or neck irradiation
 - b) Hyperfunction of the nodule seen on thyroid scintigraphy
 - c) Hypofunctioning of the nodule seen on scintigraphy (cold nodule)
 - d) History of Graves' disease
- 158. A 55-year-old man is noted to have a 1.4 cm nodule in the right thyroid lobe. For which of the following situations is thyroidectomy the best treatment option?**
- a) Initial non diagnostic FNAB results
 - b) Hypothyroidism
 - c) A mother who had papillary carcinoma
 - d) FNAB results consistent with a benign neoplasm when compressive symptoms are present

159. A 60-year-old man is noted to have a 2-cm nodule in the right lobe of the thyroid. He is asymptomatic, and FNAB has been attempted on three separate occasions demonstrating non diagnostic findings. Ultrasound has shown a solid thyroid nodule without other abnormalities, and iodine-123 scintigraphy has revealed a nonfunctioning nodule. Which of the following management approaches is most appropriate?

- a) Place patient on suppressive dose of levothyroxine and repeat FNA in 3 months.
- b) Right thyroidectomy.
- c) Place patient on suppressive dose of levothyroxine and repeat ultrasound in 3 months.
- d) Total thyroidectomy with central neck dissection.

160. A 52-year-old woman with a history of asymptomatic carotid stenosis undergoes follow-up ultrasound of the neck that revealed stable stenosis of the carotid and an incidental finding of several solid and fluid-filled nodules seen in both lobes of the thyroid gland. The largest of these nodules measure 0.3 cm in diameter. Her serum TSH is within the normal range. Which of the following is the most appropriate management for this patient?

- a) Total thyroidectomy.
- b) I^{132} radioablation of the thyroid.
- c) Observation.
- d) Placement on suppressive dose of levothyroxine.

5- The Parathyroid

1. About anatomy of the parathyroid glands, all the following statements are true, EXCEPT:

- a) There are always four parathyroid glands.
- b) The superior parathyroids are derived from the fourth branchial pouches while the inferior glands are derived from the third pouches.
- c) The blood supply of the parathyroid glands is mainly from the inferior thyroid arteries.
- d) The inferior parathyroid glands may be present in the mediastinum.
- e) The inferior parathyroid gland is usually found near the intersection of the inferior thyroid artery and the recurrent laryngeal nerve.

2. About primary hyperparathyroidism, one statement only is TRUE:

- a) Commonest pathology is hyperplasia
- b) Serum calcium is reduced.
- c) Serum calcitonin is reduced.
- d) It leads to osteoporosis

3. The manifestations of primary hyperparathyroidism include all the following, EXCEPT:

- a) Bony pains.
- b) Renal colic.
- c) Epigastric pain.
- d) Normal serum calcium and high PTH.

- 4. The differential diagnoses of hypercalcemia include all the following, EXCEPT:**
- a) Primary hyperparathyroidism.
 - b) Bone metastases.
 - c) Multiple myeloma.
 - d) Tuberculosis.
- 5. About the investigations for clinically-suspected hyperparathyroidism, all the following statements are true, EXCEPT:**
- a) High serum calcium is present in patients with primary hyperparathyroidism.
 - b) Estimating PTH is necessary for the diagnosis of hyperparathyroidism.
 - c) Estimating serum calcitonin is necessary for diagnosis.
 - d) Ultrasound scan is used for localization of the adenoma.
- 6. About post-thyroidectomy hypoparathyroidism, all the following statements are true, EXCEPT:**
- a) It may be caused by inadvertent removal of the parathyroid glands at thyroidectomy.
 - b) It may be caused by devascularization of the parathyroid glands at operation.
 - c) The condition usually presents about two weeks after thyroidectomy.
 - d) The earliest symptom is facial numbness.
- 7. A 67-year-old Female with peptic ulcer, polydipsia, subperiosteal bone resorption especially at the phalanges, and depression. Most appropriate investigation:**
- a) Thyroxin level.
 - b) Fasting blood glucose.
 - c) PTH.
 - d) 5-HLAA.
- 8. Which one of the following is not part of the management of a patient with hyperparathyroidism?**
- a) Hydration with intravenous normal saline.
 - b) Exploration of the neck for parathyroidectomy.
 - c) Insulin.
 - d) Parathyroid scan.
- 9. The causes of hypercalcemia include the following EXCEPT:**
- a) Multiple myeloma.
 - b) Bone metastasis.
 - c) Hyperthyroidism.
 - d) Acute pancreatitis.
- 10. Regarding primary hyperparathyroidism:**
- a) Blood calcium level is decreased.
 - b) Tetany is a common presentation.
 - c) Renal calculi are common.
 - d) Can be treated by vitamin D supplementation

- 11. Elevated parathyroid hormone in blood produces all EXCEPT:**
- a) Increased gastric acid secretion.
 - b) Increased incidence of renal stones.
 - c) Increased calcium excretion in urine.
 - d) Tetany.
- 12. Regarding hypoparathyroidism, all of the following are true EXCEPT:**
- a) Phosphorous should be increased in the diet.
 - b) The aim of the treatment is to control tetanic convulsions.
 - c) Dihydro-tachysterol may be needed to control the hypocalcaemia.
 - d) Aluminium hydroxide is occasionally used.
- 13. The treatment of primary hyperparathyroidism is mainly:**
- a) Medical.
 - b) Treatment of the cause.
 - c) Surgical.
 - d) Correction of the renal failure
- 14. Parathormone secretion is stimulated by:**
- a) Hyper-magnesemia
 - b) Parasympathetic stimulation
 - c) Hypo-vitaminosis D
 - d) Severe hypokalemia
- 15. Secreted parathormone has a half-life of:**
- a) 2-4 minutes
 - b) 45-60 minutes
 - c) 3 hours
 - d) 8 hours
- 16. The commonest cause of primary hyperparathyroidism is:**
- a) Hyperplasia.
 - b) Carcinoma.
 - c) Multiple adenomata.
 - d) Single adenoma
- 17. Which of the following statements is TRUE?**
- a) Primary hyperparathyroidism is usually sporadic.
 - b) Hypercalcemia triggers the release of parathormone.
 - c) Familial hyperparathyroidism commonly presents as an adenoma.
 - d) Familial hyperparathyroidism is mostly sporadic.
- 18. Chvostek's sign is:**
- a) Carpal spasm induced by sphygmomanometer cuff pressure on the upper arm above the systolic blood pressure for not more than two minutes in the normal person.
 - b) As above, but the person has tetanus.
 - c) Twitching of the facial muscles produced by tapping over the branches or the facial nerve in front of the tragus of the ear in the normal person
 - d) As above, but the person has tetany.

19. A 60-year-old postmenopausal woman with osteoporosis has a serum calcium level of 11.4 mg/dL, a serum phosphorus level of 2.0 mg/dL, and a 24-hour urine calcium excretion of 425 mg. Which of the following serum tests is most likely to establish the cause of her hypercalcemia?
- a) Chloride/ phosphorus ratio
 - b) PTH -related polypeptide
 - c) Urine calcium clearance
 - d) Intact PTH level
20. You are asked to evaluate a patient in the hospital with hypercalcemia. A diagnosis of hyperparathyroidism has been excluded. Which of the following is the most likely cause?
- a) Familial hypocalciuric hypercalcemia
 - b) Sarcoidosis
 - c) Induced by medication
 - d) Malignancy
21. Which of the following is the most common metabolic complication of primary hyperparathyroidism?
- a) Kidney stones
 - b) Osteoporosis
 - c) Pancreatitis
 - d) Gout
22. Which of the following abnormalities is most likely to be caused by hyperparathyroidism?
- a) Hypocalciuria
 - b) Hyperphosphatemia
 - c) Hyperchloremia
 - d) Elevated serum bicarbonate
23. A 49-year-old woman with primary hyperparathyroidism has severe symptoms. Preoperative imaging fails to localize an abnormal gland. What is the best treatment for this patient?
- a) No intervention
 - b) Medical management with cinacalcet
 - c) Unilateral parathyroid exploration
 - d) Total parathyroidectomy with partial parathyroid re-implantation
24. During parathyroid exploration for a 36-year-old woman with primary hyperparathyroidism, you see an enlarged inferior parathyroid gland which appears to be adhered to the thyroid gland and surrounding soft tissue. What is your next step in management?
- a) Left inferior parathyroidectomy
 - b) En-bloc left parathyroidectomy and thyroid lobectomy with removal of adjacent soft tissue
 - c) Total parathyroidectomy
 - d) Modified radical neck dissection

6- Other Endocrine Organs

1. **Glucocorticoids are mainly produced by which layer of the adrenal cortex?**
 - a) Zona glomerulosa.
 - b) Zona fasciculata.
 - c) Zona reticularis.
 - d) All of the above.
2. **The most common cause of Cushing's syndrome is:**
 - a) Iatrogenic.
 - b) Adrenal adenoma.
 - c) Pituitary adenoma.
 - d) Ectopic ACTH producing tumors.
3. **All of the following changes occur in primary adrenal hyperplasia, EXCEPT:**
 - a) Hypokalemia.
 - b) Hypernatremia.
 - c) Water retention.
 - d) Hyponatremia.
4. **Conn's syndrome is associated with all of the following features, EXCEPT:**
 - a) Edema.
 - b) Hypertension.
 - c) Hypokalemia.
 - d) Muscle weakness.
5. **All of the following are features of Cushing's syndrome, EXCEPT:**
 - a) Psychosis.
 - b) Hypertension.
 - c) Hypokalemia.
 - d) Hypoglycemia.
6. **A high prevalence of skin pigmentation, muscle weakness and Hypokalemia is associated with which type of Cushing's syndrome?**
 - a) ACTH secreting pituitary adenomas.
 - b) Ectopic secretion of ACTH.
 - c) Adrenal adenoma.
 - d) Iatrogenic.
7. **Which of the following tests is helpful in the differentiation of Cushing's syndrome due to pituitary tumors or due to an ectopic source of ACTH?**
 - a) 24-hour urinary cortisol.
 - b) Elevated midnight serum cortisol level.
 - c) Low-dose dexamethasone suppression test.
 - d) High-dose dexamethasone suppression test.
8. **Hyperpigmentation following bilateral adrenalectomy is due to:**
 - a) Iatrogenic long-term use of steroids.
 - b) Hypersecretion of ACTH.
 - c) Adrenal failure.
 - d) None of the above.
9. **Which of the following statements regarding adrenal carcinoma is INCORRECT?**
 - a) It is usually > 5 cm.
 - b) Most of them are non-functional.
 - c) It is associated with a poor prognosis.
 - d) It is associated with MEN-I syndrome.

18. The most common cause of primary aldosteronism is:

- a) Adrenal adenoma.
- b) Adrenal cortical carcinoma
- c) Bilateral micro-nodular hyperplasia of the adrenal gland.
- d) Bilateral macro-nodular hyperplasia of the adrenal gland.

19. Mineralocorticoids are secreted from the:

- a) Zona reticularis.
- b) Zona glomerulosa.
- c) Zona fasciculata.
- d) Adrenal medulla.

20. All of the following conditions can cause secondary hyperaldosteronism, EXCEPT:

- a) Cardiac failure.
- b) Conn's syndrome.
- c) Nephrotic syndrome.
- d) Chronic liver disease.

21. Which of the following drugs must be stopped before performing assay for diagnosis of hyperaldosteronism?

- a) Fluconazole.
- b) Spironolactone.
- c) Oral contraceptive pills.
- d) Calcium-channel blocker.

22. The electrolyte abnormality associated with primary hyperaldosteronism is:

- a) Hyperkalemia.
- b) Hyponatremia.
- c) Hypokalemia.
- d) I-hypocalcaemia.

23. An 18-year-old male patient underwent bilateral adrenalectomy for bilateral pheochromocytoma. 48 hours following surgery he is feeling very tired and lethargic. His blood pressure is 80/60 mmHg and his pulse rate 90/min. Clinical examination does not reveal any signs of volume loss. The most likely diagnosis is:

- a) Sepsis.
- b) Cardiogenic shock.
- c) Addisonian crisis.
- d) Hypovolemic shock.

24. The majority of pancreatic islet tumors associated with multiple endocrine neoplasia (MEN)-I syndrome ARE:

- a) Functional.
- b) Non-functional.
- c) Multicentric.
- d) b and c.

25. The most common pituitary tumours associated with multiple endocrine neoplasia (MEN)- I syndrome are:

- a) Prolactinomas.
- b) ACTH secreting tumors.
- c) Non-functioning pituitary adenomas.
- d) Growth hormone secreting pituitary tumors.

26. All of the following tumors are associated with multiple endocrine neoplasia (MEN)- I syndrome, EXCEPT:

- a) Insulinomas.
- b) Gastrinomas.
- c) Glucagonomas.
- d) Pheochromocytomas.

27. Which one of the following features is associated with aggressive tumor behaviour in a patient with multiple endocrine neoplasia (MEN)-I associated gastrinoma?

- a) Tumor size > 3 cm.
- b) Onset of gastrinoma at 50 years of age or older.
- c) Diagnosis of MEN - I at 35 years of age or older.
- d) Low level of gastrin at the time of presentation.

28. The treatment of choice for pituitary prolactinomas is:

- a) Surgery.
- b) Radiotherapy.
- c) Dopamine agonists.
- d) Surgery followed by radiotherapy.

29. Which one of the following statements regarding gastrinoma is INCORRECT?

- a) Drug-induced achlorhydria can lead to false positive test results.
- b) Normal gastrin levels exclude the diagnosis of gastrinoma.
- c) Proton pump inhibitors should be stopped 4 weeks before the measurement of serum gastrin levels.
- d) All patients with gastrinomas should be tested for MEN-I syndrome.

30. All of the following conditions are associated with MEN-II syndrome, EXCEPT:

- a) Pheochromocytoma.
- b) Pituitary adenoma.
- c) Hirschsprung's disease.
- d) Medullary thyroid cancer.

31. Genetic screening for germline RET mutations should be offered to:

- a) New patients with two synchronous or metachronous features of MEN-II.
- b) Patients presenting with medullary thyroid cancer.
- c) Infants presenting with Hirschsprung's disease and family history of medullary thyroid cancer.
- d) All of the above.

32. The majority of insulinomas are:

- a) Benign and multiple.
- b) Benign and solitary.
- c) Extrapancreatic and multiple.
- d) Benign and extrapancreatic in origin.

33. The left adrenal vein drains into the:

- a) IVC
- b) Splenic vein
- c) Left renal vein
- d) Left gonadal vein

34. Addison's disease is characterized by all of the following features, EXCEPT:

- a) Hypotension. b) Hyperkalemia, c) Hyponatremia. d) Hyperglycemia.

35. The majority of carcinoid tumors originate from the:

- a) Colon. b) Stomach. c) Appendix. d) Small bowel.

36. Which one of the following statements regarding carcinoid tumors is INCORRECT?

- a) Secretory diarrhea is the most common feature.
b) The presence of carcinoid syndrome indicates liver metastases.
c) All patients with jejuno-ileal carcinoids present with carcinoid syndrome.
d) Patients with large retroperitoneal tumors can present with carcinoid syndrome.

37. A 25 years old male patient presents with clinical features suggestive of acute appendicitis. At laparotomy he is found to have a 2.5 cm growth at the base of the appendix. He should be treated with:

- a) Appendectomy. b) Right hemicolectomy.
c) Limited ileocecal resection.
d) Appendectomy followed by right hemicolectomy at a later stage if the margins are positive.

38. The treatment of choice for patients with rectal carcinoids of less than 1 cm size is:

- a) Local excision. b) Anterior resection.
c) Short-term chemotherapy followed by local excision.
d) Short course of radiotherapy followed by local excision.

39. Which one of the following statements regarding rectal carcinoids is CORRECT?

- a) Measurement of urinary 5-hydroxyindole acetic acid (HIAA) is not useful.
b) Octreotide scan is very useful in the diagnosis of rectal carcinoids.
c) Tumors <2 cm have a high incidence of metastasis.
d) The lung is the most common site of metastases.

40. Which of the following imaging modalities is most sensitive for evaluation of an extra-adrenal pheochromocytoma?

- a) Ultrasound. c) Magnetic resonance imaging (MRI).
b) CT scan. d) Metaiodobenzylguanidine (MIBG) scan.

41. Pheochromocytomas predominantly secrete:

- a) Dopamine. c) Norepinephrine.
b) Epinephrine. d) Dihydroxyphenylalanine (DOPA).

- 42. Cushing's syndrome is not associated with which one of the following conditions?**
- a) Pituitary adenoma.
 - b) Adrenal carcinoma.
 - c) Medulloblastoma.
 - d) Oat cell carcinoma of the lung.
- 43. The metabolic abnormalities associated with hyperaldosteronism are:**
- a) Hypernatremia, hypokalemia, metabolic alkalosis.
 - b) Hyponatremia, hypokalemia, metabolic alkalosis.
 - c) Hyponatremia, hyperkalemia, metabolic alkalosis.
 - d) Hypernatremia, hyperkalemia, metabolic alkalosis.
- 44. The clinical features associated with Cushing's syndrome include:**
- a) Hirsutism.
 - b) Poor wound healing.
 - c) Bitemporal hemianopia.
 - d) All of the above.
- 45. The most common cause of Conn's syndrome is:**
- a) Adrenal adenoma.
 - b) Adrenal hyperplasia.
 - c) Adrenal carcinoma.
 - d) Liver failure.
- 46. The dominant clinical feature of Conn's syndrome is:**
- a) Generalized weakness.
 - b) Peripheral edema.
 - c) Hypertension.
 - d) Polyuria.
- 47. The precursor for epinephrine and norepinephrine is:**
- a) Tyrosine.
 - b) Histidine.
 - c) Tryptophan.
 - d) Arginine.
- 48. Adrenaline and noradrenaline are the two most common hormones produced by the adrenal medulla. The ratio of these hormones is:**
- a) 2:1.
 - b) 4:1.
 - c) 1:8.
 - d) 1:6.
- 49. A 28-year-old nurse is found in the nursing break room and is confused and shaky. Her fasting blood glucose is 42 mg/dL, C-peptide and urine sulfonylureas are normal. What is your next step in management of this patient?**
- a) CT scan of the abdomen
 - b) Endoscopic ultrasound
 - c) Cessation of diabetes mellitus medications
 - d) Psychiatric evaluation
- 50. The CT scan of a 59-year-old man with a metastatic pancreatic endocrine neoplasm reveals non-resectable large hepatic masses in the right and left lobes. Which of the following therapies is most useful in his treatment?**
- a) Total hepatectomy
 - b) Liver transplant
 - c) Radiofrequency ablation of liver lesions
 - d) Platinum-based chemotherapy

- 51. A 63-year-old man has a long history of peptic ulcer disease despite maximal doses of gastric acid suppression medications and a surgical acid-reduction surgery. How do you obtain the diagnosis?**
- a) Secretin stimulation test
 - b) Urinary pancreatic polypeptide
 - c) Octreotide scan
 - d) Venous sampling
- 52. A 43-year-old woman with a known pancreatic mass returns to the office with high blood sugars, foul smelling stools, and gallstone related pain. What is the most likely diagnosis?**
- a) Insulinoma
 - b) Gastrinoma
 - c) Glucagonoma
 - d) VIPoma
- 53. A 72-year-old woman has been seen by numerous specialists for an erythematous rash that has migrated from the groin to the buttocks and abdomen. She is noted to also have recent onset hyperglycemia. What is the most likely diagnosis?**
- a) Insulinoma
 - b) Gastrinoma
 - c) Glucagonoma
 - d) VIPoma
- 54. A 49-year-old woman with a history of previous pancreatic surgery has a return of intermittent voluminous diarrhea. Her stool sample is negative for ova and parasites, but her chemistry reveals a low potassium. What is the most likely diagnosis?**
- a) Insulinoma
 - b) Gastrinoma
 - c) Glucagonoma
 - d) VIPoma

CHAPTER VIII: THE BREAST SURGERY

1. **The medial mammary artery is a tributary of the**
 - a) 2nd, 3rd, and 4th intercostal arteries.
 - b) Thoracoacromial artery.
 - c) Internal mammary artery.
 - d) Posterior intercostal arteries.
2. **Absence of the breast (amastia) is associated with**
 - a) Turner's syndrome.
 - b) Poland syndrome.
 - c) Klinefelter's syndrome.
 - d) Fleischer's syndrome.
3. **The axillary lymph nodes are divided into three levels I, II, III by:**
 - a) The axillary artery.
 - b) The axillary vein.
 - c) The nerve to latissimus dorsi.
 - d) The pectoralis minor muscle.
4. **Etiology of breast abscess include:**
 - a) Mostly in lactating women.
 - b) Bad hygiene.
 - c) Due to Staph from baby mouth.
 - d) All of the above.
5. **What is true about breast abscess:**
 - a) Fluctuation is an early sign.
 - b) Usually unilocular.
 - c) Best treated with antibiotics.
 - d) Requires incision and break up of all trabeculae.
6. **Acute mastitis most commonly occurs at or during:**
 - a) Puberty.
 - b) Pregnancy.
 - c) Lactation.
 - d) Blunt trauma to the breast.
7. **Clinical findings of fibroadenosis include:**
 - a) Cyclic pain.
 - b) Cyclic discharge.
 - c) Cyclic swelling.
 - d) All of the above.
8. **Cyst of Blood Good is:**
 - a) Retention cyst of duct papilloma.
 - b) Precancerous lesion of breast.
 - c) Hemorrhagic cyst containing altered blood.
 - d) Giant fibroadenoma.
9. **Treatment of fibroadenosis all true EXCEPT:**
 - a) Psychotherapy has a main role.
 - b) Primrose improves the condition.
 - c) Initial treatment should include antiestrogen.
 - d) Surgery is reserved to complicated cases.

- 10. A 35-year-old professional dancer presents with a well-defined, tense, smooth mass in the upper outer quadrant of the left breast. She states that the mass becomes larger just before onset of her periods. Aspiration yields a clear yellow fluid and the mass disappears. The most likely diagnosis is:**
- a) Fibroadenoma in a cyst.
 - b) Fibrocystic disease of the breast.
 - c) Galactocele.
 - d) Carcinoma in a cyst.
- 11. The following statements about fibrocystic breast are true except:**
- a) May be asymptomatic.
 - b) May cause nipple retraction.
 - c) May cause discharge per nipple.
 - d) Is a cause of breast pain.
- 12. Treatment of cyclic mastalgia may include all the following except:**
- a) Exclusion of malignancy & reassurance.
 - b) Bromocriptine 2.5 mg bid.
 - c) Avoidance of breast support.
 - d) Danazol 100-200 mg bid.
- 13. Signs of pus formation are the following except:**
- a) Hectic fever.
 - b) Edema of overlying skin.
 - c) No response to medical treatment for 48 hours.
 - d) Fluctuation occurs early in breast abscess.
- 14. 33 years old, breast feeding woman is 10 days postpartum. She has a 4-day history of a slight crack on the surface of her left nipple. She presents with a 2-day history of severe continuous pain in the left breast which has prevented her from sleeping. On examination the outer quadrants of the left breast to be red, warm and tender with a hard 3 cm lump at the edge of the left nipple. The most likely diagnosis is:**
- a) Breast cyst
 - b) Breast abscess
 - c) Fat necrosis
 - d) Periductal mastitis.
- 15. About acute lactational breast abscess, one statement only is true:**
- a) Is commonly multilocular.
 - b) Weaning the baby is mandatory.
 - c) Mammography is indicated if an abscess is suspected.
 - d) Treatment is essentially conservative by antibiotics.
- 16. The following statements about mammary duct ectasia are all true, EXCEPT:**
- a) May produce a mass similar to carcinoma in the axillary tail of the breast.
 - b) May produce non lactational mastitis and abscess.
 - c) Anaerobic bacteria are commonly implicated.
 - d) May present by nipple discharge.

17. What is common consensus about breast abscess?

- a) Fluctuation is late sign.
- b) Must be drained if no resolution within 48 hours of antibiotics.
- c) Counter incision is made in most dependent part
- d) All of the above.

18. The following statements about fibroadenosis of the breast are true, EXCEPT that:

- a) It manifests itself by pain or lumps.
- b) Symptoms vary with the stages of the menstrual cycle.
- c) Large lumps may contain fluid on aspiration.
- d) It can usually be clinically differentiated from carcinoma.

19. Organism causing breast abscess is:

- a) Bacillus.
- b) Proteus.
- c) Neisseria gonorrhea.
- d) Staphylococcus.

20. Best treatment of chronic breast abscess is:

- a) Prolonged antibiotic courses.
- b) Incision and drainage.
- c) Repeated aspiration.
- d) Excision of the whole abscess.

21. The commonest route of infection of breast abscess is:

- a) Retrograde infection along lymphatic vessels
- b) Along natural passages (nipple)
- c) Along artificial passages like fissures or cracks of nipple and areola
- d) Local extension from infection of the chest wall muscles or ribs.

22. The acronym ANDI stands for:

- a) Abnormal development and involution.
- b) Aberration of normal development and involution.
- c) Accelerated normal development and involution.
- d) None of the above.

23. Breast cancer:

- a) Has a genetic predisposition.
- b) Is more common in multipara.
- c) B. Is more common with late menarche.
- d) Has worse prognosis if it is estrogen receptor positive.

24. Cyst sarcoma phyllodes of the breast:

- a) Are mostly malignant.
- b) Commonly spread to regional lymph nodes.
- c) Have a fleshy and lobulated appearance.
- d) Are called breast mice.

25. Breast cancer:

- a) Is common among young girls.
- b) Invasive lobular type is bilateral in 25% of cases.
- c) Decreases in incidence after the age of 65 years.
- d) Estrogen receptor +ve tumour has a bad prognosis.

26. Level II axillary nodes:

- a) Are located around the axillary vein.
- b) Are medial to or above the pectoralis minor muscle.
- c) Are made up of the central and interpectoral nodes.
- d) Are made up of the external mammary and scapular nodes.

27. Mondor's disease:

- a) Is usually self-limiting and spontaneously resolves in 4-6 weeks.
- b) Is indicative of an increased risk of breast cancer.
- c) Requires surgical treatment for cure.
- d) Is often bilateral.

28. A 36-year-old woman presents with a substantial unilateral breast enlargement. She had presumed that this was normal, but on examination, a large, firm tumor is palpated by the attending physician. There is early erosion on the skin. A favorable outcome can be anticipated if the lesion is which of the following?

- a) Colloid carcinoma.
- b) Infiltrating carcinoma.
- c) Cystosarcoma phyllodes.
- d) Inflammatory carcinoma.

29. A 25-year-old non-alcoholic man has noticeable right gynaecomastia since age 20. He is most uncomfortable and reluctant to swim or exercise at a gym for fear of being an object of derision. He should be advised to have which of the following?

- a) Observation.
- b) Right mastectomy.
- c) Testosterone therapy by transdermal patch
- d) Endocrine workup and right subcutaneous mastectomy.

30. Breast cancer is more commonly found in women who:

- a) Are multiparous.
- b) Have an early menopause.
- c) Have an early menarche.
- d) Have first pregnancy at an early age.

31. Paget's disease:

- a) Is associated with underlying duct carcinoma.
- b) Can be differentiated from melanoma by CEA staining.
- c) Is self-limiting and requires no treatment.
- d) Is diagnosed by characteristic skin changes in the axilla.

32. Which one of the following statements with regard to breast cancer is INCORRECT?

- a) 5 % of breast cancers are sporadic.
- b) Life-time risk is one in nine.
- c) It is uncommon below the age of 35 years.
- d) BRCA-1 and BRCA-2 genetic defects are the most common genetic abnormality.

33. Which of the following statements regarding mammographic examination is INCORRECT?

- a) The sensitivity of mammogram for detection of breast cancer is age dependent.
- b) The denser the breast the more effective the mammogram.
- c) Mammography is rarely indicated in women under the age of 35 years.
- d) None of the above.

34. A 34-year-old female presents with a 2-month history of a painful right breast lump. Pain is mainly during menstruation. There is no significant past medical history or family history of breast cancer. Clinical examination reveals a diffuse lump in her right breast. The investigation of choice for the further evaluation of the lump is:

- a) Ultrasound.
- b) Mammogram.
- c) Magnetic resonance imaging (MRI).
- d) Ultrasound Doppler.

35. The investigation of choice for early detection of breast cancer in patients with breast implants is:

- a) Magnetic resonance imaging (MRI).
- b) CT scan.
- c) Ultrasound.
- d) Mammogram.

36. The investigation of choice in a patient with suspected recurrence following breast conservation surgery is:

- a) Magnetic resonance imaging (MRI).
- b) CT scan.
- c) Ultrasound.
- d) Mammogram.

37. Which of the following findings on magnetic resonance imaging (MRI) does not require further evaluation?

- a) Well-defined mass.
- b) Clustered micro-calcification.
- c) Architectural distortion.
- d) Spiculated lesion.

38. The best screening test for females aged between 32-39 years with a high risk of breast cancer is:

- a) Magnetic resonance imaging (MRI).
- b) CT scan.
- c) Ultrasound.
- d) Mammogram

39. All of the following except one is not an independent prognostic factor for breast cancer:

- c) Size of the tumor.
- a) Lymph node status.
- d) Estrogen receptor status.
- b) Histological grade.

40. Which one of the following statements with regard to local recurrence following breast conservation surgery is INCORRECT?

- a) Recurrence within 5 years is associated with worst outcome.
- b) Presence of an extensive in situ component is associated with an increased risk of local recurrence.
- c) Local recurrence is more common in elderly patients.
- d) Radiotherapy reduces the incidence of local recurrence.

41. The sampling technique of choice in a patient with a suspicious breast lesion on mammography and ultrasound is:

- a) FNAC.
- c) Stereotactic core biopsy.
- b) Core biopsy.
- d) Vacuum-assisted mammotomy.

42. Triple assessment include the following except:

- a) Clinical evaluation.
- c) Imaging.
- b) Laboratory investigations.
- d) Cytology.

43. Bleeding on zonal pressure is highly suggestive of:

- a) Breast abscess.
- c) Duct papilloma.
- b) Cancer breast.
- d) Cystosarcoma phyllodes.

44. Best treatment for duct papilloma is:

- a) Follow up.
- c) Local excision.
- b) Local excision with safety margin.
- d) Chemotherapy and/or radiation.

45. The following is treatment of choice in pericanalicular fibroadenoma:

- c) Enucleation.
- a) Irradiation.
- d) Simple mastectomy.
- b) Removal en block.

46. Probe test can differentiate Cystosarcoma phylloides from:

- c) Breast mouse.
- a) Fibroadenosis.
- d) Chronic breast abscess.
- b) Cancer breast.

47. The appropriate therapy for Paget's disease of the nipple is:

- a) Resection.
- c) Topical steroid cream.
- b) Topical antifungal medication.
- d) Intra-lesional steroid cream.

48. Risk factors of cancer breast include all the following EXCEPT:

- a) Mutation in suppressor genes (BRCA I, II).
- b) Early menarche.
- c) Prolonged lactation.
- d) Carcinoma in situ.

49. The sampling technique of choice in a patient with a suspicious breast lesion detected by mammography but not visible on ultrasound is:

- a) FNAC.
- b) Core biopsy.
- c) Stereotactic core biopsy.
- d) Vacuum-assisted mammotomy.

50. The parameter that is not used in the calculation of the Nottingham prognostic index is:

- a) Tumour grade.
- b) Lymphovascular invasion.
- c) Tumour size.
- d) Lymph node status.

51. A 52-year-old female underwent breast conservation surgery and axillary nodal clearance. The histology shows a 3 cm, well-differentiated, intraductal carcinoma. Three out of 15 lymph nodes are involved by the tumor. The Nottingham prognostic index for this patient is:

- a) 4.4.
- b) 3.6.
- c) 5.2.
- d) 6.

52. Which of the following is not seen in Paget's disease of the breast?

- a) Eczematous skin lesions.
- b) Intraductal invasive carcinoma.
- c) Early lymph node metastasis.
- d) Multifocal invasive carcinoma.

53. A contraindication for breast conservation surgery is:

- a) 3 cm lesion in the left upper outer quadrant.
- b) Multi focal disease.
- c) 2 cm lesion located centrally in a large breast.
- d) 3 cm lesion in the right upper quadrant with a family history of breast cancer.

54. Which one of the following statements with regard to lymph node staging of breast cancer is INCORRECT?

- a) Sentinel lymph node biopsy is the procedure of choice in the absence of palpable lymph nodes.
- b) The majority of patients with ductal carcinoma in situ should not have axillary surgery.
- c) Physical examination is associated with a high false positive and false negative rate.
- d) Axillary lymph node dissection improves overall survival significantly.

55. The preferred breast conservation surgical option is:

- a) Quadrantectomy.
- b) Wide local excision.
- c) Local excision.
- d) Lumpectomy.

56. Concerning an intraductal papilloma, which of the following statements is FALSE?

- a) Microdochectomy is the treatment of choice.
- b) This lesion is the most common cause of bloody nipple discharge.
- c) Serous non-bloody discharge is unlikely to be due to an intraductal papilloma.
- d) A non-palpable lesion can often be diagnosed with ductography.

57. All of the following factors except one affect the incidence of local recurrence following breast conservation surgery:

- a) Tumor grade.
- b) Lymphovascular invasion.
- c) Size of the tumor.
- d) Hormone receptor status.

58. The breast is embryologically derived from:

- a) Sweat gland.
- b) Sebaceous gland.
- c) Subcutaneous fat.
- d) Pectoral fascia.

59. The motor nerves that are at risk of injury during axillary lymph node dissection are the:

- a) Medial pectoral nerve, long thoracic nerve of Bell, thoracodorsal nerve.
- b) Intercostobrachial nerve, lateral pectoral nerve, long thoracic nerve of Bell.
- c) Intercostobrachial nerve, medial pectoral nerve, thoracodorsal nerve.
- d) Lateral pectoral nerve, long thoracic nerve of Bell, thoracodorsal nerve.

60. Damage to which of the following nerves results in winging of the scapula?

- a) Thoracodorsal nerve.
- b) Long thoracic nerve of Bell.
- c) Medial pectoral nerve.
- d) Lateral pectoral nerve.

61. A 50-year-old female with a 2 cm palpable breast lesion and clinically negative axillary lymph node is confirmed to have an invasive breast carcinoma on ultrasound core biopsy. The appropriate lymph node staging method in this patient is:

- a) Sentinel lymph node biopsy at the time of breast conservation surgery.
- b) Axillary lymph node sampling.
- c) Axillary lymph node dissection.
- d) Ultrasound guided axillary lymph node biopsy.

62. Increased occurrence of cancer breast in upper lateral quadrant is due to:

- a) Increased estrogen receptors.
- b) Increased breast mass.
- c) Both of the above.
- d) None of the above.

63. Peu d'orange is due to:

- a) Skin metastasis.
- b) Thrombophlebitis.
- c) Lymphatic obstruction.
- d) None of the above.

64. Cancer en cuirasse is:

- a) Skin nodule.
- b) Lymphedema of breast skin.
- c) Both.
- d) None of the above.

65. The cause in skin dimpling in any fibrotic condition of the breast is the affection of:

- a) Milk duct.
- b) Cooper's ligament.
- c) Milk acini.
- d) All of the above.

66. Contraindications to conservative surgery for breast cancer include:

- a) Large tumor.
- b) Distant metastasis.
- c) Paget's disease of nipple.
- d) All of the above.

67. Sentinel lymph node biopsy is not recommended in patients with:

- a) Invasive cancer of less than 5 cm.
- b) Ductal carcinoma in situ presenting with a palpable mass.
- c) Previous axillary surgery.
- d) 4 cm lesion in the center of the breast.

68. Sentinel lymph node biopsy is not recommended in patients with the following conditions with the exception of:

- a) Inflammatory breast cancer.
- b) Pregnant females.
- c) Multicentric disease.
- d) Patients on neoadjuvant therapy.

69. A 45-year-old female with a 3 cm palpable right breast lesion is referred to a breast clinic for further evaluation. On examination, there is a 3 cm hard mass in the right upper quadrant. She is also found to have palpable right axillary lymph nodes. The most appropriate next step in the management is:

- a) Ultrasound guided core biopsy of the breast lesion and FNAC of the axillary lymph node.
- b) Mammogram and ultrasound of the breast lesion and sentinel lymph node biopsy.
- c) US and mammogram followed by core biopsy of the breast lesion and FNAC of the axillary nodes.
- d) Wide local excision and sentinel lymph node biopsy.

70. Which of the following factors are independent predictors of invasive cancer in patients with ductal carcinoma in situ (DCIS)?

- a) Age <55 years.
- b) Mammographic size > 4 cm.
- c) Diagnosis made with core biopsy.
- d) All of the above.

71. Which one of the following statements regarding BRCA-I associated breast cancer is false?

- a) They are more frequently grade III tumors.
- b) They are often estrogen receptor (ER) positive.
- c) Medullary carcinomas are more frequent.
- d) All of the above.

72. Which one of the following statements with regard to risk reduction mastectomy (RRM) in patients with a family history of BRCA-1 and BRCA-2 mutations is incorrect?

- a) RRM reduces the incidence of breast cancer by over 95%.
- b) Nipple areolar complex preserving surgery is associated with a higher complication rate.
- c) Early reconstruction is not contraindicated if early postoperative radiotherapy is anticipated.
- d) It is contraindicated in patients choosing surgery for cosmetic reasons.

73. Immediate breast reconstruction following mastectomy is associated with all of the following advantages, EXCEPT:

- a) Maximal preservation of breast skin.
- b) Improved preservation of inframammary fold.
- c) Better cosmetic results.
- d) Better overall survival.

74. Which one of the following is not a contraindication for breast reconstruction surgery?

- a) Unresectable chest wall disease.
- b) Multiple serious co-morbidities.
- c) Progressive systemic disease.
- d) Familial breast cancer.

75. The latissimus dorsi myocutaneous flap is based on blood supply from the:

- a) Thoracodorsal artery.
- b) Internal mammary artery.
- c) Thoracoacromial artery.
- d) Suprascapular artery.

76. The common site for the placement of a tissue expander following mastectomy is:

- a) Under the chest wall muscle.
- b) Under the skin.
- c) Posterior to the pectoral fascia.
- d) Within the pectoralis major muscle.

77. The common complication following breast implant reconstruction 1S:

- a) Hematoma formation.
- b) Seroma formation.
- c) Capsular contracture.
- d) Flap necrosis.

78. Which of the following statements is true concerning adjuvant systemic therapy?

- a) Adjuvant tamoxifen in post-menopausal, node-positive, ER-positive women is equivalent to cytotoxic chemotherapy.
- b) Tamoxifen clearly improves survival in all hormonal receptor-positive patients.
- c) CMF is associated with improved overall survival in both premenopausal and postmenopausal node-positive patients.
- d) There is no evidence to suggest a role for chemotherapy in node-negative patients.

79. Clinical features of breast cancer which are associated with a particularly poor prognosis include:

- a) Edema of the skin of the breast.
- b) Dermal lymphatic invasion.
- c) Lateral arm edema.
- d) All of the above.

80. The most frequent histologic type of breast carcinoma is:

- a) Infiltrating papillary carcinoma
- b) Colloid carcinoma
- c) Infiltrating ductal carcinoma
- d) Medullary carcinoma
- e) Infiltrating lobular carcinoma.

81. A rectus abdominis muscle flap may rely on its blood supply from all of the following vessels, except the:

- a) Deep inferior epigastric artery.
- b) Deep superficial epigastric artery.
- c) Superficial inferior epigastric artery.
- d) Musculophrenic artery.

82. Excision of a fibroadenoma is recommended in which of the following situations:

- a) Lesions >4 cm.
- b) Rapid increase in size.
- c) Lesions causing significant distortion of breast profile.
- d) All of the above.

83. The treatment of choice in a patient with a 3.5 cm histologically confirmed fibroadenoma of the breast is:

- a) Reassurance.
- b) Lumpectomy.
- c) Wide local excision.
- d) Further follow-up with ultrasound.

84. Phyllodes tumors are characterized by all of the following, EXCEPT:

- a) Age of onset is 15-20 years earlier than fibroadenomas.
- b) Less common than fibroadenomas.
- c) The majority are benign.
- d) Lymph node metastasis is rare.

85. The characteristic features of phyllodes tumor are:

- a) Leaf-like appearance on the cut surface.
- b) Presence of cutaneous engorgement.
- c) High incidence of local recurrence.
- d) All of the above.

86. The common cause of bloody nipple discharge is:

- a) Intraductal papilloma.
- b) Nipple adenoma.
- c) Ductal carcinoma in situ.
- d) Duct ectasia.

87. A 60-year-old female with a 3 -month history of bloody nipple discharge and normal clinical and mammographic findings should be managed by:

- a) Cytology of nipple discharge.
- b) Microdochectiony.
- c) Total duct excision.
- d) Simple mastectomy.

88. The treatment of choice for a 30-year-old pregnant lady with bloody nipple discharge and normal clinical examination is:

- a) Ultrasound breast + biopsy.
- b) Reassurance.
- c) Microdochectiony.
- d) Total duct excision.

89. A 40-year-old female with bilateral cyclical breast pain with no palpable mass on clinical examination is referred to you by her general practitioner. The next step in the management of this patient is:

- a) Mammography.
- b) Analgesics and reassurance.
- c) Tamoxifen.
- d) Evening primrose oil.

90. The most effective drug for the treatment of cyclical mastalgia is:

- a) Tamoxifen.
- b) Danazol.
- c) Bromocriptine.
- d) Evening primrose oil.

91. A risk factor for peri-ductal mastitis IS:

- a) Pregnancy.
- b) Smoking.
- c) Diabetes.
- d) Lactation.

92. The following is contraindication to conservative breast surgery:

- a) Palpable mobile axillary LNs.
- b) Mastitis carcinomatosis.
- c) Tumor 3 cm
- d) Patient aged 50 years.

93. All the following are recognized side effects of radiotherapy except:

- a) Local burn.
- b) End arteritis.
- c) Pulmonary fibrosis.
- d) None of the above.

94. All of the following are risk factors for local recurrence following breast conservation surgery, EXCEPT:

- a) Grade of tumour.
- b) Positive resection margin.
- c) Presence of extensive intraductal component.
- d) None of the above.

95. Adjuvant chemotherapy is indicated in:

- a) +ve LN biopsy.
- b) -ve hormonal receptors.
- c) Poor prognosis of the case.
- d) All of the above.

96. Chemotherapy is the primary palliative treatment in the following conditions:

- a) Visceral metastasis.
- b) Advanced case in premenopausal woman.
- c) -ve hormonal receptors with distant metastasis.
- d) All of the above.

97. The main presentation of Paget disease is:

- a) Mass under the nipple.
- b) Unilateral red scaly nipple.
- c) Bleeding per nipple.
- d) Bilateral itchy red vesicles.

98. A 25-year-old female presents with a painless lump in her right breast. On examination there is a 2 cm mobile, firm, well-defined mass present in the lower outer quadrant. The most likely diagnosis is:

- a) Fibroadenoma.
- b) Breast cancer.
- c) Phyllodes tumor.
- d) Hamartoma.

99. The organism most commonly responsible for infections during lactation is:

- a) Staphylococcus aureus.
- b) Streptococcus.
- c) Anaerobes.
- d) Streptococcus milleri.

100. The patients at high risk of developing loco-regional recurrence are those with:

- a) Grade III cancer.
- b) Involvement of more than four lymph nodes.
- c) Involvement of the pectoral fascia.
- d) All of the above.

101. The preferred hormonal therapy in a 65-year-old female with metastatic breast cancer IS:

- a) Tamoxifen.
- b) Letrozole.
- c) Progestogen.
- d) Chemotherapy.

102. A 35-year-old female presents with a painful right breast lump during lactation. Clinical examination reveals a tender, non-fluctuating inflammatory mass in the right inner and lower quadrant. The treatment of choice is:

- a) Incision and drainage.
- b) Antibiotics followed by ultrasound guided aspiration.
- c) Antibiotics followed by mammography.
- d) Antibiotics alone.

- 103. A 30-year-old female presents with a 3-day history of a painful right breast. There is no significant past medical history. Clinical examination reveals thickened palpable cord-associated erythema over the lower part of the breast. The most likely diagnosis is:**
- a) Mondor's disease.
 - b) Traumatic fat necrosis.
 - c) Locally advanced breast cancer.
 - d) Fibroadenosis.
- 104. A breast lump is safe to leave along after aspiration if:**
- a) It is a cyst that does not subsequently refill.
 - b) It is solid and not cystic.
 - c) There is minimal blood staining of the aspirate.
 - d) Cytological examination reveals cells with hyperchromatic nuclei.
- 105. Which of the following statements about Paget's disease of the nipple is INCORRECT?**
- a) Is a unilateral affection of the breast.
 - b) Is always related to an underlying cancer.
 - c) Is a rare disease of middle-aged and elderly women.
 - d) Carries a worse prognosis than other breast cancers.
- 106. Which of the following conditions has an increased incidence of breast cancer?**
- a) Breast cyst.
 - b) Duct ectasia.
 - c) Fibroadenoma.
 - d) Atypical ductal or lobular hyperplasia.
- 107. During a routine screening mammography, a 62-year-old teacher is informed that she has changes on her mammography, and she should consult her physician. She can be reassured that the findings that indicate a benign condition are which of the following?**
- a) Discrete, stellate mass.
 - b) Fine, clustered calcifications.
 - c) Coarse calcifications.
 - d) Solid, clearly defined mass with irregular edges.
- 108. A 30-year-old female presented with serosanguinous discharge from the right nipple. Examination revealed no palpable masses. The most likely diagnosis is:**
- a) Intraduct papilloma.
 - b) Eczema of the nipple.
 - c) Occult carcinoma.
 - d) Paget's disease of the breast.
- 109. As regard incidence of cancer breast all correct, EXCEPT:**
- a) Most common female malignancy.
 - b) Rare in nulliparous females.
 - c) Very rare below 20 years.
 - d) Males are rare to be affected but with grave prognosis.

- 110. When stage I breast cancer is treated by partial mastectomy and dissection, further therapy should include:**
- a) Chemotherapy.
 - b) Antiestrogen agents.
 - c) Radiation of the affected breast
 - d) Oophorectomy if premenopausal.
- 111. Bilateral primary breast cancer is most likely to develop in association with:**
- a) Medullary carcinoma.
 - b) Lobular carcinoma.
 - c) Colloid carcinoma.
 - d) Duct carcinoma.
- 112. Tamoxifen use in breast cancer causes all EXCEPT:**
- a) Decreases recurrence in affected breast.
 - b) Decreases incidence in contralateral breast.
 - c) Increase incidence of endometrial cancer.
 - d) Increased incidence of myocardial infarction.
- 113. Soft tissue mammography is most valuable in:**
- a) Differentiating of benign from malignant masses.
 - b) Detection of impalpable breast cancers.
 - c) Clinical staging of breast cancer.
 - d) Investigation of discharging nipples.
- 114. The drug used in the medical management of gynecomastia is:**
- a) Bromocryptine.
 - b) Danazole.
 - c) Meroclopramide.
 - d) Minocycline.
- 115. In radical mastectomy all of the following structures are removed, Except:**
- a) Nipple and areola.
 - b) Axillary lymph nodes.
 - c) Pectoralis major muscle.
 - d) Nerve to Serratus anterior.
- 116. A patient with a breast cancer that measures 5 cm with fixed axillary nodes and no distant metastasis is considered:**
- a) T₂, N₂, M₀
 - b) T₂, N₁, M₀
 - c) T₃, N₂, M₀
 - d) T₃, N₁, M₀
- 117. A premenopausal 44-year-old woman undergoes a quadrantectomy and node dissection for a 2-cm infiltrating carcinoma of the left breast. The margins are clear, and 5 out of 15 lymph nodes are involved. ER and PR are positive. Recommended adjuvant therapy should include which of the following?**
- a) Radiotherapy alone
 - b) Chemotherapy alone
 - c) Modified radical mastectomy
 - d) Chemotherapy, radiotherapy, and tamoxifen.

- 118. Which is the type of chemotherapy given to a female with local advanced breast carcinoma to reduce the size of the tumor so as to facilitate more effective surgery?**
- a) Adjuvant chemotherapy.
 - b) Neoadjuvant therapy.
 - c) Palliative chemotherapy.
 - d) Hormonal therapy.
- 119. Regarding Ductal carcinoma in situ (DCIS) of the breast all the following statements are true EXCEPT:**
- a) Can be distinguished from invasive carcinoma on fine-needle Aspiration cytology (FNAC).
 - b) Accounts for around 15-20% of screen-detected breast cancers.
 - c) Is associated with axillary node metastases in 1% of cases.
 - d) Can be treated by mastectomy or lumpectomy with or without radiotherapy.
- 120. A 55-year-old postmenopausal woman undergoes a left axillary lymph node biopsy, which turns out to be an adenocarcinoma. Breast examination fails to show any abnormality and mammography, ultrasound, and metastatic workups are all negative. The tumor is ER+/PR+. Which of the following statements is TRUE?**
- a) Recurrence and survival results for this patient are worse than those identified with primary tumor in the breast.
 - b) This is a common site for papillary carcinoma of the thyroid to metastasize.
 - c) The treatment should be a left axillary dissection followed by chemotherapy and radiation therapy.
 - d) A primary breast cancer is only found in 10-20% of mastectomy specimens.
- 121. Regarding breast cysts, one statement is true:**
- a) The commonest is galactoceles.
 - b) Malignancy is suspected if the lump does not totally disappear after complete aspiration of fluid.
 - c) Multiplicity of cysts raises suspicion of malignancy.
 - d) In the majority of cases cyst excision is necessary.
- 122. Breast self-examination:**
- a) Is recommended for all women above the age of twenty.
 - b) Is recommended for women above the age of 40 only.
 - c) Is recommended to be done monthly in the immediate premenstrual period.
 - d) Should be conducted in the presence of a specialist surgeon.
- 123. Which one of the following drugs does not cause gynaecomastia?**
- c) Phenytoin.
 - d) Ciprofloxacin.
 - a) Ranitidine.
 - b) Diazepam.

- 124. Regarding Paget's disease of the nipple all are true, EXCEPT:**
- a) May be initially confused with eczema.
 - b) Is frequently bilateral.
 - c) It indicates an underlying intra-ductal carcinoma.
 - d) Characterized by presence of Paget's cells.
- 125. The most common site of recurrence of invasive breast cancer following mastectomy is:**
- a) Chest wall.
 - b) Axilla.
 - c) Lung.
 - d) Bone.
- 126. A 39-year-old patient presents to your office with a left 3.5cm breast tumor, which on core needle biopsy, is shown to be an invasive ductal cancer. On left axillary examination, she has a hard non-fixed lymph node. A biopsy of a left supraclavicular node is positive for malignancy. Her stage is currently classified as?**
- a) IIIC.
 - b) IV
 - c) IIB
 - d) IIIB
- 127. After undergoing modified radical mastectomy for cancer of the right breast, a 52-year-old female teacher becomes aware that the medial end of her scapula becomes prominent in protraction movements at the shoulder. She also complains of some weakness in complete abduction of the same shoulder. What nerve was injured?**
- a) Long thoracic.
 - b) Thoracodorsal.
 - c) Intercostobrachial.
 - d) Ulnar.
 - e) Median
- 128. The preferred hormonal treatment in pre-menopausal women with metastatic breast cancer is:**
- a) Tamoxifen.
 - b) Aromatase inhibitor.
 - c) Progestogen.
 - d) LHRH agonist.
- 129. Lobular carcinoma of breast all true, EXCEPT:**
- a) Is more common than ductal carcinoma.
 - b) In situ state is considered risk factor for malignancy.
 - c) With in-situ carcinoma mammography of both breasts is mandatory.
 - d) Usually bilateral and multicentric.
- 130. The most common site for scirrhous carcinoma of the breast is:**
- a) Upper outer quadrant.
 - b) Upper inner quadrant.
 - c) Lower outer quadrant.
 - d) Lower inner quadrant.
- 131. The skin manifestations of breast cancer include all of the following EXCEPT:**
- a) Ulceration.
 - b) Puckering.
 - c) Pigmentation.
 - d) Cancer en cuirasse.

- 132. A 40-year-old female presented with a large painless lobulated mass in her left breast. Frozen section showed replacement of breast tissue by dense myxomatous fibrous tissue compressing the intervening ductal epithelium. The most likely diagnosis is:**
- a) Fibroadenosis.
 - b) Fibrosarcoma.
 - c) Fibroadenoma.
 - d) Cystosarcoma phyllodes.
- 133. Early carcinoma of the breast in the last three months of pregnancy is best treated by:**
- a) Radical mastectomy with termination of pregnancy.
 - b) Radical mastectomy with continuation of pregnancy.
 - c) Radiotherapy.
 - d) Chemotherapy.
- 134. Breast conservation surgery is usually contraindicated in all the following, EXCEPT:**
- a) Axillary nodes are palpable.
 - b) The patient refuses radiotherapy.
 - c) There is extensive DCIS (ductal carcinoma in situ)
 - d) Tumor size is greater than 4 cm in average size breast.
- 135. Triple assessment in breast mass means:**
- a) Three radiological modalities must be used to get proper assessment for breast masses
 - b) Examining the patient at three different occasions
 - c) The patient must be examined by three different physicians
 - d) Clinical, radiological, and tissue diagnosis for breast mass.
- 136. Regarding lobular carcinoma in situ LCIS, ALL are true EXCEPT:**
- a) Since LCIS is purely non-invasive, nodal dissection is not required if mastectomy is chosen
 - b) The majority of woman with LCIS are postmenopausal
 - c) LCIS patients are at risk for invasive and non-invasive ductal carcinoma in both breasts
 - d) There is high incidence of bilaterality.
- 137. Regarding fibroadenomas of the breast all of the following statements are true EXCEPT:**
- a) Are benign monoclonal neoplasm (arise from one cell type).
 - b) Most commonly present in late adolescence or the early 20s.
 - c) Should be diagnosed by triple assessment.
 - d) At least 30% reduces in size over a 2-year period.

138. Which statements is false regarding classification and prognostic indicators of breast carcinoma?

- a) Involvement of the supra-clavicular lymph nodes denotes distant metastasis.
- b) In the TNM classification T3 denotes tumor fixed to the skin and N3 means fixed ipsilateral nodes.
- c) Presence of estrogen receptors denotes better prognosis.
- d) Mitotic count and pleomorphism are prognostic indicators.

139. The treatment of choice for Cystosarcoma phyllodes is:

- a) Radical mastectomy
- b) Simple mastectomy
- c) Hormonal ablation.
- d) Radiation therapy.

140. The following statements about mammography are all true, except:

- a) Indicated for the diagnosis of a breast lump.
- b) Indicated for regular screening of women who are at high risk of development of breast cancer.
- c) More informative in young women below the age of 35 years.
- d) Addition of ultrasound improves the diagnosis of breast cancer.

141. Which of the following is not a characteristic of medullary breast cancer?

- a) Lymphocytic infiltrate
- b) Benign appearance on ultrasound
- c) High rate of lymph node metastasis
- d) Usually manifested as a palpable mass.

142. Which characteristic of a positive axillary sentinel lymph node is not associated with additional positive nodes and distant recurrence?

- a) Node diameter greater than 1 cm.
- b) Grossly irregular nodal border.
- c) Firmness on palpation.
- d) Isolated tumor cells.

143. Breast cancer spreads mainly to:

- a) Pectoral and central axillary lymph nodes.
- b) Posterior and lateral axillary nodes.
- c) Internal mammary nodes.
- d) Supraclavicular nodes.

144. Which of the following 5-year survival rates by stage for treated breast cancer is incorrect?

- a) Stage I: 95% to 100%
- b) Stage II: 80% to 90%
- c) Stage III: 50% to 70%
- d) Stage IV: 1% to 5%

- 145. Which is not true regarding chronic granulomatous mastitis?**
- a) It can be recognized on frozen section.
 - b) It may be a sign of a systemic disorder.
 - c) Tuberculosis is a common granulomatous infection of the breast.
 - d) Chronic granulomatous mastitis includes variants of ductal ectasia.
- 146. Which of the following forms of breast cancer is considered more aggressive?**
- a) Lobular carcinoma in situ.
 - b) Paget's disease of the nipple.
 - c) Medullary (encephaloid) carcinoma.
 - d) NOS (not otherwise specified) type.
- 147. A 39-year-old woman has an ill-defined 2-cm mass in the upper outer quadrant of her right breast. Mammography and ultrasound confirm this solid lesion. Ultrasound guided fine needle aspiration is performed, and cytological evaluation reveals a highly cellular, monomorphic pattern. There are poorly cohesive intact cells, nuclear "crowding" with variation in nuclear size, radial dispersion and clumping of the chromatin, and prominent nucleoli. What is the diagnosis?**
- a) Carcinoma
 - b) Fat necrosis
 - c) Fibroadenoma
 - d) Phyllodes tumor.
- 148. A 42-year-old woman underwent lumpectomy and axillary dissection for a 2-cm, moderately differentiated, ER-negative infiltrating ductal carcinoma. Pathologic examination revealed adequate margins, and 1 of 19 lymph nodes was found to be positive for carcinoma. Which of the following treatment plans is most appropriate?**
- a) Single-drug chemotherapy and radiation therapy
 - b) Multidrug chemotherapy and radiation therapy
 - c) Multidrug chemotherapy, radiation therapy, and tamoxifen
 - d) Multidrug chemotherapy alone.
- 149. Early breast cancer:**
- a) Means a T₁N₁M₀ tumor or less.
 - b) Means that cure is impossible.
 - c) Means those microscopic metastases are not present.
 - d) Primary treatment is by surgery +/- radiotherapy.
- 150. A 35-year-old premenopausal woman whose mother had breast cancer comes into your office and has been told that she has fibrocystic breasts. On examination she has multiple areas of thickening but no discrete mass. Of the following diagnostic tests, which should be performed?**
- a) Bilateral breast magnetic resonance imaging (MRI) with gadolinium.
 - b) Re-examination in 6 months.
 - c) Bilateral breast ultrasound.
 - d) Thermography.

- 151. A 52-year-old undergoes a left modified radical mastectomy for a 2-cm breast cancer. She should be informed that the factor which has the greatest impact on her prognosis is?**
- a) The size of the primary tumor
 - b) The histological type of the carcinoma
 - c) The number of axillary nodes positive for metastasis
 - d) Hormonal receptor status of the primary tumor
- 152. Neo-adjuvant therapy for malignancy means:**
- a) Giving chemo and or radiotherapy before surgery.
 - b) Giving chemotherapy after radical excision.
 - c) Giving radiotherapy after palliative excision.
 - d) Giving chemotherapy after palliative excision.
- 153. When screening females for breast carcinoma, what is the most significant risk?**
- a) Three previous breast biopsies in premenopausal females.
 - b) More than 2 first degree relatives with ovarian or breast carcinoma.
 - c) Hyperplasia in breast biopsy.
 - d) None of the above.
- 154. Non-malignant conditions of the breast include all the following EXCEPT:**
- a) Paget's disease of the nipple.
 - b) Cystosarcoma phyllodes
 - c) Giant fibroadenoma.
 - d) Duct ectasia.
- 155. The investigation of choice for a well circumscribed breast lump which is freely mobile within the breast of a patient 20 years old is:**
- a) MRI breast.
 - b) Mammogram
 - c) Breast ultrasound
 - d) Thermal Mammography
- 156. The most common genetic cause of breast cancer is a mutation in**
- a) PTEN (Cowden syndrome)
 - b) P53 (Li-Fraumeni syndrome)
 - c) MSH2 (Muir-Torre syndrome)
 - d) BRCA2.
- 157. The preferred treatment of choice in a patient with estrogen receptor negative metastatic breast cancer IS:**
- a) Trastuzumab.
 - b) Aromatase inhibitor.
 - c) Tamoxifen.
 - d) Chemotherapy.
- 158. The side-effects of tamoxifen include:**
- a) Endometrial cancer.
 - b) Thromboembolism.
 - c) Hot flushes and vaginal dryness.
 - d) All of the above.

- 159. Which of the following statements with regard to the epidemiology of male breast cancer is incorrect?**
- a) It accounts for > 10% of all breast cancers in Western countries.
 - b) The prevalence increases with age.
 - c) The average age of diagnosis is 10 years younger than in women.
 - d) 15-20% of patients have a family history of breast cancer.
- 160. A 55-year-old female presents with an itchy skin lesion around the nipple for the last 6 weeks. On clinical examination she has an eczematous lesion over the areola. Biopsy shows large rounded intra-epidermal cells with abundant clear pale cytoplasm and enlarged pleomorphic and hyperchromatic nuclei. The most likely diagnosis is:**
- a) Paget's disease.
 - b) Basal cell carcinoma.
 - c) Chronic eczema.
 - d) Malignant melanoma.
- 161. Which one of the following statements with regard to Paget's disease is incorrect?**
- a) Over 95% of women have underlying malignancy.
 - b) Burning, itching and change in the sensation of the nipple and areola are the first symptom.
 - c) The common reason for delay in diagnosis is due to misdiagnosis as eczema.
 - d) Prognosis depends on the size of the eczematous lesion.
- 162. The most common type of male breast cancer is:**
- a) Invasive lobular carcinoma.
 - b) Infiltrating ductal carcinoma.
 - c) Paget's disease.
 - d) Inflammatory carcinoma.
- 163. Which one of the following statements with regard to male breast cancer (MBC) is incorrect?**
- a) The majority of MBCs are invasive carcinomas.
 - b) MBC has a lower rate of estrogen receptor positivity than female breast cancers.
 - c) Lobular carcinoma in situ is rare.
 - d) MBCs have a higher rate of progesterone receptor positivity than female breast cancer.
- 164. Which of the following statements with regard to ductal carcinoma in situ (DCIS) is incorrect?**
- a) It accounts for 20-30% of all screen detected tumors.
 - b) It is a pre-invasive breast cancer.
 - c) Most of them are multicentric.
 - d) Screen detected DCISs are frequently small, localized tumors.

- 165. Lobular carcinoma in situ is:**
- a) A pre-malignant lesion.
 - b) A marker of underlying invasive cancer.
 - c) Often seen in the elderly population.
 - d) Accounts for -10% of screen detected tumors.
- 166. The incidence of macroscopic lymph node involvement in patients with ductal carcinoma in situ (DCIS) is:**
- a) <10%.
 - b) <1 %.
 - c) <5%.
 - d) 5-10%.
- 167. All of the following are risk factors for the recurrence of ductal carcinoma in situ (DCIS), EXCEPT:**
- a) Poorly-differentiated DCIS.
 - b) High-grade DCIS.
 - c) Absence of comedo necrosis.
 - d) Excision margins of less than 1 cm on breast conservation surgery.
- 168. Tamoxifen is indicated in which one of the following group of patients with ductal carcinoma in situ (DCIS):**
- a) Estrogen receptor (ER) negative tumors following breast conservation surgery.
 - b) ER positive tumors following mastectomy.
 - c) ER and HER-2 positive tumors following mastectomy.
 - d) ER positive tumors following breast conservation surgery.
- 169. Clinical features of breast cancer which are associated with a particularly poor prognosis include all EXCEPT:**
- a) Edema of the skin of the breast.
 - b) Relatively big sized breasts.
 - c) Lateral arm edema.
 - d) Skin ulceration
- 170. Which statement is false regarding classification and prognostic indicators of breast carcinoma?**
- a) Involvement of the supra-clavicular lymph nodes denotes distant metastasis
 - b) In the TNM classification T3 denotes tumor fixed to the skin and N3 means ipsilateral nodes.
 - c) Presence of estrogen receptors denotes better prognosis
 - d) Mitotic count and pleomorphism are prognostic indicators.
- 171. Contraindications of breast-conserving therapy include all the following EXCEPT:**
- a) Duct carcinoma in-situ (DCIS) discovered by mammography.
 - b) History of prior irradiation to the breast region.
 - c) Multicentric disease with two or more gross tumors in separate quadrants.
 - d) Pregnancy in the first and second trimester.

- 172. Mammographic findings suggestive of breast cancer include all of the following EXCEPT:**
- a) Solid lesion with stellate configuration
 - b) Asymmetry or distortion of breast outline.
 - c) Increased skin thickens
 - d) Macrocalcification
- 173. True statement about discharge from the nipple includes:**
- a) Intermittent thin or milky discharge can be physiologic
 - b) Bloody discharge is indicative of an underlying malignancy
 - c) Galactorrhea is indicative of an underlying malignancy
 - d) Pathologic discharge is usually bilateral
- 174. Gynaecomastia may be seen in all of the following, EXCEPT:**
- a) Newborn infants.
 - b) Klinefelter syndrome.
 - c) Hypopituitarism.
 - d) Turner syndrome
- 175. Metastatic disease from breast cancer:**
- a) Has a mean survival rate of 18-24 months
 - b) May present as dyspnea
 - c) Forms lytic bone lesions
 - d) Is more common in mucinous tumors.
- 176. The long-term use of tamoxifen increases the incidence of which one of the following cancers?**
- a) Uterine carcinoma.
 - b) Ovarian cancer.
 - c) Breast cancer.
 - d) Cervical cancer.
- 177. The side-effects of aromatase inhibitors include:**
- a) Dyspareunia.
 - b) Bone fracture.
 - c) Hypercholesterolemia.
 - d) All of the above.
- 178. Which one of the following groups of patients with breast cancer receives the maximum benefit from adjuvant chemotherapy?**
- a) Breast cancer with lymph node level I, II, III involvement with estrogen receptor (ER) and progesterone receptor (PR) negative.
 - b) Breast cancer with lymph node I, II, III involvement with HER-2 negative.
 - c) Age >35 years with ER and PR positive and node negative tumors.
 - d) Tumor >2 cm, HER-2 positive and node negative.
- 179. Which one of the following is not used in the reconstruction of breast tissue?**
- a) Transverse rectus abdominis myocutaneous flap.
 - b) Latissimus dorsi myocutaneous flap.
 - c) Pectoralis major myocutaneous flap.
 - d) Transverse rectus abdominis free flap.

- 180. Green nipple discharge is most commonly seen in which of the following conditions?**
- a) Duct papilloma.
 - b) Duct ectasia.
 - c) Retention cyst.
 - d) Fibroadenosis.
- 181. The endocrine treatment of choice in pre-menopausal women with hormone responsive tumors IS:**
- a) Letrozole.
 - b) Anastrozole.
 - c) Tamoxifen.
 - d) Goserelin.
- 182. A 65-year-old female patient presents with a 6 cm lesion in her right breast associated with local signs of inflammation. It is confirmed as an estrogen receptor (ER) positive, locally advanced breast cancer. This patient should be treated with:**
- a) Letrozole.
 - b) Tamoxifen.
 - c) Systemic therapy.
 - d) Fulvestrant.
- 183. In patients with breast cancer, chest wall involvement means involvement of anyone of the following structures, EXCEPT:**
- a) Serratus anterior.
 - b) Pectoralis major.
 - c) Intercostal muscles.
 - d) Ribs.
- 184. Increased susceptibility to breast cancer is likely to be associated with a mutation in which of the following genes?**
- a) p⁵³.
 - b) BRCA-1.
 - c) Retinoblastoma (Rb).
 - d) K-ras.
- 185. All of the following are features of a malignant breast tumor on a mammogram, EXCEPT:**
- a) Spiculation.
 - b) Microcalcification.
 - c) Macrocalcification.
 - d) An irregular mass.
- 186. All of the following are risk factors for breast carcinomas, EXCEPT:**
- a) Ovarian malignancy.
 - b) Family history of breast carcinoma.
 - c) Fibroadenosis.
 - d) Multiparity.
- 187. Peau d'orange is due to:**
- a) Arterial obstruction.
 - b) Blockage of the subdermal lymphatics.
 - c) Invasion of the skin with malignant cells.
 - d) Secondary infection.
- 188. Cystosarcoma phyllodes is treated by:**
- a) Simple mastectomy.
 - b) Radical mastectomy.
 - c) Modified radical mastectomy.
 - d) Conservation treatment with antibiotics.

189. The type of mammary ductal carcinoma in situ (DCIS) most likely to result in a palpable abnormality in the breast is:

- a) Apocrine DCIS.
- b) Neuroendocrine DCIS.
- c) Well-differentiated DCIS.
- d) Comedo DCIS.

190. In which of the following types of breast carcinoma would you consider biopsy of the opposite breast?

- a) Poorly-differentiated adenocarcinoma.
- b) Medullary carcinoma.
- c) Lobular carcinoma.
- d) Comedo carcinoma.

191. The treatment of choice in ductal papilloma of the breast is:

- a) Simple mastectomy.
- b) Microdochectomy.
- c) Local wide excision.
- d) Chemotherapy.

192. Mondor's disease is:

- a) Thrombophlebitis of the superficial veins of the breast.
- b) Carcinoma of the breast.
- c) A pre-malignant condition of the breast.
- d) Filariasis of the breast.

193. Which of the following breast cancers carries the best prognosis?

- a) Ductal carcinoma.
- b) Lobular carcinoma.
- c) Adenoid cystic carcinoma.
- d) Colloid carcinoma.

194. Which of the following statements regarding Cooper's ligaments is true?

- a) They are fibrous bands between the breast skin and subcutaneous tissue.
- b) They are fibrous bands between the breast skin and pectoralis fascia.
- c) They are thickened sub-dermal breast lymphatics.
- d) They are fibrous bands between the skin and the clavipectoral fascia.

195. Peau d'orange in breast cancer is indicative of:

- a) Tumour growth under the skin.
- b) Infiltration of Cooper's ligaments.
- c) Involvement of the dermal and subdermal lymphatics.
- d) Low grade secondary infection.

196. The most common site of bony metastasis in breast carcinoma is the:

- a) Cervical vertebra.
- b) Thoracic vertebra.
- c) Lumbar vertebra.
- d) Sacral vertebra.

197. Pectoralis minor is supplied by the:

- a) Lateral pectoral nerve.
- b) Medial pectoral nerve.
- c) Medial and lateral pectoral nerves.
- d) Nerve to pectoralis minor.

- 198. A 50 year old woman with no family history of breast disease presented with a left breast mass of one month duration. No change in the mass was noted through her regular menstrual cycle .0/E the mass is located in the upper outer quadrant of the left breast, it is smooth, non -tender with no skin retraction and no fixation to the chest wall and the axilla is negative. The next step in management is :**
- a) Assure the patient and arrange for regular follow-up .
 - b) Ask for mammography and fine needle aspiration cytology.
 - c) Prepare the patient for open excision biopsy.
 - d) Prepare for frozen section and proceed with mastectomy if necessary.
- 199. Concerning invasive breast carcinoma, false statement is:**
- a) Ductal type is the most common .
 - b) Mucinous type tends to be more aggressive .
 - c) Lobular type is more commonly bilateral .
 - d) Medullary type is characterized by lymphocytic infiltration.
- 200. Which histological variant of breast carcinoma is multicentric and bilateral?**
- a) Ductal carcinoma.
 - b) Lobular carcinoma.
 - c) Muroid carcinoma.
 - d) Colloid carcinoma.
- 201. Latissimus dorsi is supplied by the:**
- a) Thoracodorsal nerve.
 - b) Long thoracic nerve of Bell.
 - c) Suprascapular nerve.
 - d) Radial nerve.
- 202. A quadrangular space lies between the subscapularis muscle and the teres major muscle in the posterior wall of the axilla. It is bounded laterally by the humerus and medially by the long head of the triceps. Which of the following structures is not transmitted through this space?**
- a) The radial nerve.
 - b) The axillary nerve.
 - c) The posterior circumflex artery.
 - d) The posterior circumflex vein.
- 203. The skin of axilla is supplied by the:**
- a) Musculocutaneous nerve.
 - b) Intercostobrachial nerve.
 - c) Nerve to pectoralis major.
 - d) Nerve to serratus anterior.
- 204. A 35 year old woman who is currently breast-feeding her firstborn child develops an erythematous and inflamed fluctuant area on breast examination. Which of the following statements is FALSE?**
- a) The most common organism which would expect to be cultured is staphylococcus aureus
 - b) Open surgical drainage is likely indicated
 - c) Breast feeding absolutely should be discontinued
 - d) If the inflammatory process does not completely respond a biopsy may be indicated.

- 205. Which hormone receptor status of breast carcinoma is more likely to respond to hormonal therapy?**
- a) Oestrogen receptor positive and progesterone receptor negative.
 - b) Oestrogen receptor positive and progesterone receptor positive.
 - c) Oestrogen receptor negative and progesterone receptor positive.
 - d) Oestrogen receptor negative and progesterone receptor negative.
- 206. Regarding lobular carcinoma in situ (LCIS) all are true EXCEPT :**
- a) Multifocal, multicentric & affects both breasts
 - b) Is a marker of an increased risk for developing invasive breast cancer.
 - c) Has a characteristic mammographic appearance
 - d) LCIS found incidentally in breast biopsy taken for another indication.
- 207. A 58-year-old postmenopausal woman has been seen in clinic following a discovery of a 3cm, non-tender, irregular, firm lump in the upper outer quadrant of the left breast .Mammography and ultrasound imaging respectively reveal that the lump has areas of calcification and is a solid mass. The most appropriate course of action is:**
- a) Repeat mammography and ultrasound scans in 6 months
 - b) Repeat mammography and ultrasound scans in 3 months
 - c) Fine needle aspiration
 - d) Core biopsy.
- 208. In which one of the following scenarios is the complication of lymphoedema of the arm more likely to occur after resection of a breast tumour and axillary clearance?**
- a) Mastectomy + axillary clearance + postoperative radiotherapy to the chest wall
 - b) Mastectomy + axillary clearance + systemic chemotherapy
 - c) Mastectomy + axillary clearance + postoperative radiotherapy to the axilla
 - d) Mastectomy + postoperative radiotherapy
- 209. A married 23 years old woman, who started taking the combined contraceptive pill 3 months ago, presents with a 1-day history of discovering a painless lump in the right breast. The patient states that the lump was not there a month ago. On the examination, a mobile, discrete, well-defined, non-tender, firm 1cm diameter lump is found. There is no lymphadenopathy. The most likely diagnosis here is:**
- a) Breast cyst
 - b) Lipoma
 - c) Fibroadenoma
 - d) Carcinoma of the breast

- 210. A 31-year-old woman presents after having noticed multiple lumps in both breast which become very painful before the onset of her menses. On examination, you find bilateral diffuse lumpy areas in the upper outer quadrants of both breasts with some areas of tenderness. There is no lymphadenopathy. The most likely diagnosis is:**
- a) Breast cyst
 - b) Fibroadenosis
 - c) Breast carcinoma
 - d) Fat necrosis.
- 211. A married 59-year-old women with a 1-month history of having noticed a non-itchy, persistent, burning rash in the region of her right breast. On examination you find the right nipple and the skin overlying the areola to be red and eczematous. Axillary lymphadenopathy is present. The most likely cause is:**
- a) Breast abscess
 - b) Malignant phyllodes tumor
 - c) Paget's disease of the nipple
 - d) Basal cell carcinoma
- 212. Lymphatic obstruction of the breast due to advanced breast carcinoma leads to:**
- a) Nipple retraction
 - b) Peau d'orange
 - c) Puckering
 - d) Dimpling
- 213. After intraductal papilloma, unilateral bloody nipple discharge from one duct orifice is most commonly caused by which of the following pathologic conditions?**
- a) Paget's disease of the nipple.
 - b) Intraductal carcinoma.
 - c) Inflammatory carcinoma.
 - d) Subareolar mastitis.
- 214. A greenish discharge from multiple ducts of the nipple from both breasts indicates:**
- a) Duct carcinoma
 - b) Lobular carcinoma
 - c) Duct papilloma
 - d) Duct ectasia
- 215. A 31-year-old nurse presents to your office complaining of a bilateral breast pain especially before menstruation. She states it has been there for several months and won't go away. On examination, you feel a diffuse nodularity in both breasts.**
- a) Cysts
 - b) Fibroadenoma
 - c) Fibrocystic changes
 - d) Cancer
- 216. When stage 1 breast cancer is treated by partial mastectomy and axillary dissection, further therapy should include:**
- a) Nothing.
 - b) Chemotherapy.
 - c) Anti-estrogen agents.
 - d) Radiation of the affected breast.

- 217. A clinically positive subclavicular lymph node is a**
- a) Level I node
 - b) Level II node
 - c) Level III node
 - d) Level IV node
- 218. Which of the following conditions leads to gynecomastia due to an increased production of estrogen?**
- a) Klinefelter's syndrome
 - b) Hepatocellular carcinoma
 - c) Aging (senescence)
 - d) Renal failure
- 219. The treatment of choice for Mondor's disease is**
- a) Observation and NSAIDs
 - b) Mastectomy
 - c) Wide local excision
 - d) Antibiotics, incision, and drainage
- 220. The appropriate therapy for Paget's disease of the nipple is:**
- a) Topical steroid cream
 - b) Topical antifungal medication
 - c) Intralesional steroid injection
 - d) Resection
- 221. A 35-year-old woman with a BRAC1 gene mutation seeks your advice about her known increased risk of breast cancer. You should recommend**
- a) Mammograms and physical examination every 6 months until she is 50, then bilateral prophylactic mastectomy
 - b) Mammograms and physical examination every 6 months- tamoxifen
 - c) Prophylactic bilateral mastectomy and, if she has completed childbearing, prophylactic bilateral oophorectomy
 - d) None of the above
- 222. Which of the following statements about lobular carcinoma in situ (LCIS) is TRUE?**
- a) In general, LCIS occurs at an older age than ductal carcinoma in situ (DCIS)
 - b) The majority of women with LCIS are premenopausal
 - c) LCIS is bilateral in 10 to 20% of women
 - d) Invasive ductal carcinoma can be expected to occur an average of 5 to 10 years later in approximately 75% of women with LCIS
- 223. Which of the following statements regarding breast cancer is true?**
- a) Ultrasound can be used as a screening tool
 - b) Magnetic resonance imaging (MRI) can be a useful imaging tool.
 - c) Fine-needle aspiration cytology (FNAC) and core biopsy are equally useful diagnostically.
 - d) K-ras gene mutation is the most common genetic cause
- 224. Which of the following statements is FALSE?**
- a) Benign breast disease is the most common cause of breast problems.
 - b) Traumatic fat necrosis can be mistaken for a carcinoma.
 - c) 30% of breast cysts recur after aspiration.
 - d) Non-cyclical mastalgia is more common in postmenopausal women.

- 225. Which of the following conditions have an increased risk of breast carcinoma?**
- a) Breast cyst
 - b) Duct ectasia
 - c) Florid hyperplasia
 - d) Fibroadenoma.
- 226. In a patient with nipple discharge which of the following statements is NOT TRUE?**
- a) Clear serous discharge may be physiological.
 - b) Bloodstained discharge occurs in carcinoma, duct ectasia and duct papilloma.
 - c) Mammography is an important investigation.
 - d) Microdochectomy is the treatment once cancer has been excluded.
- 227. In breast carcinoma, which one of the following statements is FALSE?**
- a) Ductal carcinoma is the most common Variant
 - b) Lobular carcinoma occurs in 15 %
 - c) There may be a combination of lobular and ductal features.
 - d) Colloid, medullary and tubular carcinomas carry a poor prognosis.
- 228. A 38-year-old woman has an asymmetric density in the left breast. FNA of the mass revealed malignant cells. Which of the following is the best next step?**
- a) Total mastectomy and SLNB
 - b) Partial mastectomy, SLNB, and radiation therapy
 - c) Core-needle biopsy
 - d) Partial mastectomy and radiation therapy
- 229. A 54-year-old woman has a 1-cm breast mass that was demonstrated by coreneedle biopsy as invasive ductal carcinoma. The patient undergoes partial mastectomy and axillary SLNB. The final pathology revealed invasive ductal carcinoma measuring 1.5cm with one out of four SLNs being positive for metastatic disease. Which of the following is the most appropriate treatment plan for this patient?**
- a) Axillary lymph node dissection, whole-breast radiation, and adjuvant systemic chemotherapy
 - b) Whole breast, axillary, and chest wall radiation therapy, followed by systemic chemotherapy
 - c) Whole breast radiation and systemic chemotherapy
 - d) Mastectomy and axillary lymph node dissection

- 230. A 43-year-old woman presents with painful enlargement of the left breast. The patient denies any antecedent events. On examination, her left breast is visibly larger than the right breast with skin thickening and redness. There is a 1-cm palpable lymph node in her left axilla. Which of the following is the most appropriate management?**
- a) Admit the patient to the hospital for intravenous antibiotics treatment
 - b) Give her a 7-day course of oral antibiotics and re-evaluate in 1 month
 - c) Give her a 7-day course of oral antibiotics, obtain bilateral mammography, and re-evaluate in 1 month.
 - d) Perform ultrasound evaluation of the left breast and biopsy of any suspicious lesions
- 231. A 60-year-old woman with a 3cm left breast cancer underwent breast conservation therapy with complete excision of the tumor and SLNB. Her tumor is ER (+), PR (+), and Her2 (-). The SLNB is negative and the metastatic work-up is negative. She has just completed a 6-week course of whole-breast radiation. Which of the following pieces of information is most helpful in deciding whether systemic chemotherapy should be given in addition to aromatase inhibitor treatment?**
- a) The results of her genetic expression profile assay
 - b) The PET-CT finding
 - c) The tumor size to breast size ratio
 - d) The patient's ethnicity
- 232. A 46-year-old woman who underwent her first bilateral screening mammogram received a report that her mammography results were reported as BIRADS 0. In addition, the report commented that her breast density classification was 4 (> 75% glandular tissue). Which of the following is the most appropriate next step?**
- a) Follow-up mammography in 6 months
 - b) Obtain bilateral breast ultrasound evaluation
 - c) Obtain bilateral breast MRI
 - d) Obtain image-guided core biopsies
- 233. Which of the following is considered an appropriate treatment option for a 60-year-old woman who develops two liver metastases and a left lung metastasis 2 years following a modified radical mastectomy for invasive ductal carcinoma? The patient's tumor is ER (+), PR (+), and Her2 (-). She had completed a course of ACT (Adriamycin / cyclophosphamide/ taxotere) systemic chemotherapy just 1 year ago. She is currently on tamoxifen therapy.**
- a) Initiate trastuzumab treatment
 - b) Radiation therapy to the lung and liver
 - c) Resection of liver and lung metastases
 - d) Stop tamoxifen and begin aromatase inhibitor treatment

- 234. A 44-year-old woman underwent a stereotactic biopsy of a suspicious mammographic lesion in the left breast. The biopsy revealed LCIS. The patient's past medical history is significant for left femoral vein thrombosis that occurred after 18-hour air travel. Which of the following is the most appropriate management recommendation for this patient?**
- a) Left total mastectomy with mirror image biopsy of the right breast
 - b) Left partial mastectomy and whole-breast radiation therapy
 - c) Tamoxifen, clinical examinations, and mammography every 2 years
 - d) Raloxifene, clinical examinations, and mammography every 6 to 12 months
- 235. Which of the following is associated with the greatest risk of developing breast cancer in a woman?**
- a) Age greater than 40
 - b) First-degree relative with breast cancer
 - c) Prior benign breast biopsy
 - d) Mutation of the BRCA1 gene
- 236. A 37-year-old woman with multiple family members with breast cancer is noted to have BRCA1 mutation during genetic testing. She is counseled about a 55% to 65% lifetime probability of breast cancer. She asked whether mastectomy would be advisable. Which of the following statements regarding prophylactic mastectomy is most accurate?**
- a) Prophylactic mastectomy is an acceptable treatment option
 - b) Prophylactic mastectomy is rarely indicated because chemoprevention, diagnostic, and surveillance strategies are sufficient to identify and treat cancers at a treatable stage
 - c) Unilateral mastectomy is preferable over bilateral mastectomies
 - d) Prophylactic mastectomy should only be done if the patient will be able to undergo immediate reconstruction procedure
- 237. Which of the following statement is most accurate regarding mammography?**
- a) The radiation exposure can lead to pulmonary malignancies, especially in smokers
 - b) Its primary purpose is to differentiate benign from malignant processes when a mass is detected by physical examination
 - c) Its main purpose is to identify and characterize non-palpable abnormalities
 - d) It is more accurate in young women
- 238. A 40-year-old lawyer comes into your office after seeing some information on the Internet relating to breast cancer. Which of the following factors has not shown to increase a woman's risk for breast cancer?**
- a) Smoking
 - b) Previous history of benign breast biopsies
 - c) Atypia seen on pathology from previous breast biopsy
 - d) First-degree relative with history of breast cancer

- 239. A 53-year-old waitress inquires about the implications of positive estrogen receptors (ER+) in an invasive carcinoma that is excised from her left breast. She should be informed of what?**
- a) They are more often positive in patients under 50 years of age.
 - b) If the receptors are positive, anti-estrogen therapy is not indicated.
 - c) If the receptors are positive, the prognosis is more unfavorable.
 - d) ER and progesterone receptor (PR) status should be determined in all cases of breast carcinoma.
- 240. A 46-year-old woman presents with a mammogram that shows a 1-cm cluster of fine calcifications in the right breast. Following mammographic wire localization, the lesion is excised and the pathology reported as ductal carcinoma in situ (DCIS) with Comedo features and free margins. What advice should be given to the patient?**
- a) If untreated, about 30% of such lesions become invasive over a 10-year period.
 - b) Comedo DCIS is less aggressive than non comedo DCIS.
 - c) Bilateral mastectomy and radiotherapy are the preferred treatments.
 - d) Axillary node dissection is always indicated.
- 241. A 43-year-old premenopausal patient has a biopsy showing focal lobular carcinoma in situ (LCIS) in the area of calcification. With regard to the LCIS, you should tell the patient which of the following?**
- a) She needs a simple mastectomy.
 - b) She must be placed on tamoxifen and chemotherapy.
 - c) This is a premalignant lesion, and she requires additional lumpectomy and radiotherapy.
 - d) She is at increased risk of breast cancer, and she should just be observed closely.
- 242. A 47-year-old woman, whose mother was diagnosed with breast cancer at the age of 61 years, underwent a stereotactic breast biopsy of the left breast and was found to have ADH. Which of the following is the most appropriate treatment option?**
- a) Tamoxifen chemoprevention
 - b) Raloxifene chemoprevention
 - c) Left breast biopsy with needle localization
 - d) Left modified radical mastectomy
- 243. A partially blind 65-year-old mother presents with a slight change in color of the areola of her left breast. An eczematous rash of the left areola has persisted for the last 3 months. Biopsy of the nipple reveals Paget's disease. In Paget's disease of the nipple which of the following is true?**
- a) Carcinoma of the breast is rarely found.
 - b) Surgical therapy often fails to cure Paget's disease.
 - c) The diagnosis should be made by nipple biopsy when suspected.
 - d) The underlying carcinoma when present is very large.

- 244. An 18-week pregnant, 35-year-old woman presents after undergoing a modified radical mastectomy for a 2 cm ductal cancer with one out of fifteen positive axillary lymph nodes. What should she be informed of regarding breast cancer during pregnancy?**
- a) She cannot undergo chemotherapy until after she delivers.
 - b) She should have a therapeutic abortion in order to proceed with radiotherapy.
 - c) Breast cancer is the most common cancer during pregnancy.
 - d) Radiotherapy is indicated.
- 245. A 45-year-old premenopausal woman undergoes a left breast lumpectomy for a 1.5 cm, lymph node positive, hormone sensitive invasive breast cancer. She receives chemotherapy, radiotherapy, and is on tamoxifen. Recommended follow-up after therapy should always include:**
- a) Blood tumor markers drawn every 3-6 months after treatment.
 - b) Routine monitoring of liver function tests (LFTs) every 3-6 months after treatment.
 - c) Yearly bone scans.
 - d) Routine clinical examination every 3-6 months for the first 5 years after treatment as well as continued yearly mammography.
- 246. The following statements about breast cancer prognosis are all true, EXCEPT:**
- a) Is worsened by the detection of axillary nodes deposits.
 - b) Is better in estrogen +ve cases.
 - c) Is better for tumors in the medial than in the lateral half of the breast.
 - d) Is worse for invasive duct carcinoma than for Cystosarcoma phylloides.
- 247. The following statements about Paget's disease of the nipple are all true, EXCEPT:**
- a) Is lobular carcinoma arising at the opening of a lactiferous duct on the nipple.
 - b) Should be differentiated from eczema of the nipple.
 - c) Sometimes there is no palpable mass.
 - d) Mastectomy is indicated.
- 248. Regarding axillary lymph nodes involvement in cancer of the breast, all the following statements are true, EXCEPT:**
- a) Clinical assessment of the axilla is not accurate.
 - b) Prognosis is affected by the number of affected nodes.
 - c) Is an indication for adjuvant chemotherapy in early cases.
 - d) Is an indication for adding irradiation of the axilla after its surgical evacuation.

- 249. The following statements about pulmonary metastases of breast cancer are all true, EXCEPT:**
- a) May be asymptomatic.
 - b) May produce Dyspnea.
 - c) May produce persistent cough.
 - d) If localized to one lung while the other lung shows good function, pneumonectomy is indicated.
- 250. Concerning sampling of a breast lump, all the following statements are true, EXCEPT:**
- a) The most accurate is excision biopsy.
 - b) Fine needle aspiration cytology does not require general anaesthesia.
 - c) Fine needle aspiration cytology shows tissue architecture.
 - d) Frozen section biopsy is sometimes inconclusive.
- 251. The following statements about lymphatic drainage of the breast are all true EXCEPT:**
- a) Lymph from medial half of the breast may drain in internal mammary nodes.
 - b) From anywhere in the breast lymphatics drain mostly to axillary nodes.
 - c) Division of axillary nodes into levels I, II, III depends upon anatomical relationship with the pectoralis minor muscle.
 - d) Level one axillary nodes is the highest in the axilla.
- 252. Regarding duct carcinoma in situ of the breast, one statement only is true:**
- a) May be discovered on screening mammography for asymptomatic women.
 - b) Is not a true malignancy.
 - c) It does not progress to invasive cancer but is a powerful marker of increased cancer risk.
 - d) Close observation is all that is needed.
- 253. Neo- adjuvant therapy for malignancy means:**
- a) Treatment with modern methods.
 - b) Giving chemo and or radiotherapy before surgery.
 - c) Giving chemotherapy after radical excision.
 - d) Giving radiotherapy after palliative excision.
- 254. When screening females for breast carcinoma, what is the most significant risk?**
- a) Three previous breast biopsies in premenopausal females.
 - b) More than 2 first degree relatives with ovarian or breast carcinoma.
 - c) Hyperplasia in breast biopsy.
 - d) None of the above.

- 255. The treatment of choice for a 1.8 cm in diameter, N₀, M₀ invasive breast cancer is**
- a) Lumpectomy alone.
 - b) Lumpectomy, sentinel node biopsy, and radiation.
 - c) Mastectomy with sentinel node biopsy and radiation.
 - d) Mastectomy with axillary node dissection and radiation.
- 256. Concerning mastitis carcinomatosa, the INCORRECT statement among the following is that it:**
- a) Is a highly anaplastic carcinoma.
 - b) Occurs most often during pregnancy and lactation.
 - c) Is often misdiagnosed as acute mastitis.
 - d) Is associated with a palpable mass in the breast.
- 257. The following statements about galactoceles are true EXCEPT that it:**
- a) Presents as a cystic swelling under the areola.
 - b) Affects lactating women.
 - c) Is a retention cyst behind an obstructed duct.
 - d) Never resolves spontaneously.
- 258. Concerning traumatic fat necrosis of the breast, the following statements are true EXCEPT that:**
- a) A history of trauma can be elicited in all cases.
 - b) It usually occurs in large pendulous breasts.
 - c) It manifests itself as a tender firm localized mass.
 - d) It may be preceded by cyst formation due to liquefaction of fat.
- 259. Which statements about the estrogen receptor negative, or about estrogen receptor-positive breast cancer, are FALSE?**
- a) Older women without functioning ovaries are more likely to possess estrogen-receptor negative breast cancer because there is no estrogen to stimulate them.
 - b) Younger women are more likely to have estrogen receptor-negative breast cancers than older women.
 - c) The estrogen receptor is expressed in the cell nucleus and stimulates target genes after binding to estrogen.
 - d) High levels of the estrogen receptors are typically seen in lower-grade tumors and in older women.
- 260. A 45-year-old woman presents with spontaneous, unilateral, single-duct non-bloody nipple discharge. Appropriate management includes:**
- a) Physical examination, mammography, and cytology.
 - b) Physical examination, mammography, and ductography.
 - c) Physical examination, mammography, cytology, and ductography.

Answer Key
Chapter I: Trauma

1- WOUNDS

- 1- C
- 2- B
- 3- B
- 4- C
- 5- D
- 6- D
- 7- C
- 8- C
- 9- A
- 10- B
- 11- C
- 12- B
- 13- D
- 14- A
- 15- C
- 16- D
- 17- C
- 18- B
- 19- C
- 20- D
- 21- C
- 22- C
- 23- D

2- HEMORRHAGE

- 1- D
- 2- D
- 3- D
- 4- D
- 5- C
- 6- D
- 7- C
- 8- D
- 9- B
- 10- B
- 11- C
- 12- A
- 13- A
- 14- C
- 15- D
- 16- C
- 17- D
- 18- A
- 19- A
- 20- A
- 21- A

22- B

3- HAEMOSTASIS

- 1- A
- 2- D
- 3- B
- 4- A
- 5- B
- 6- C
- 7- A
- 8- B
- 9- D
- 10- D
- 11- C
- 12- C
- 13- B
- 14- E
- 15- C
- 16- A
- 17- C
- 18- C
- 19- D
- 20- C
- 21- D
- 22- D
- 23- C
- 24- A
- 25- A
- 26- D
- 27- D
- 28- B
- 29- D
- 30- B
- 31- C
- 32- D
- 33- A
- 34- A
- 35- B
- 36- B
- 37- C
- 38- D
- 39- B
- 40- B
- 41- C

- 42- B
- 43- B

4- SHOCK

- 1- A
- 2- D
- 3- B
- 4- C
- 5- C
- 6- D
- 7- D
- 8- D
- 9- A
- 10- A
- 11- C
- 12- A
- 13- A
- 14- B
- 15- A
- 16- D
- 17- B
- 18- D
- 19- C
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- 24- C
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- 27- B
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- 29- C
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- 32- C
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- 50- C
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- 52- D
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- 54- C
- 55- A
- 56- D
- 57- D
- 58- C
- 59- D
- 60- B
- 61- C
- 62- C
- 63- C

5- BURN

- 1- B
- 2- A
- 3- A
- 4- B
- 5- A
- 6- B
- 7- A
- 8- D
- 9- C
- 10- B
- 11- A
- 12- A
- 13- D
- 14- C
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- 20- D
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- 22- C
- 23- C
- 24- B

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- 26- B
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- 29- C
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- 33- C
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- 54- C
- 55- D
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- 57- C
- 58- B
- 59- A
- 60- C
- 61- A
- 62- C
- 63- C
- 64- C
- 65- C
- 66- A
- 67- B
- 68- C
- 69- A
- 70- D
- 71- C
- 72- B
- 73- D

6- MULTIPLE INJURIES PATIENT

- 1- B
- 2- C
- 3- C
- 4- A
- 5- A
- 6- C
- 7- A
- 8- B
- 9- D
- 10- B
- 11- D
- 12- A
- 13- C
- 14- C
- 15- D
- 16- B
- 17- B
- 18- D
- 19- C
- 20- B
- 21- D
- 22- D
- 23- A
- 24- C
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- 26- A
- 27- C
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- 30- B
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- 33- C
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- 40- D
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- 42- A
- 43- D
- 44- C
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54- D
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56- A
57- C
58- D
59- B
60- C
61- D
62- A
63- D
64- C
65- D
66- C
67- A
68- B
69- D
70- C
71- D
72- A
73- A
74- B
75- C
76- D
77- A
78- D
79- E
80- A
81- D
82- C

CHAPTER II: SURGICAL NUTRITION

1- Water & Electrolytes

- 1- B
- 2- B
- 3- D
- 4- A
- 5- B
- 6- A
- 7- B
- 8- A
- 9- B
- 10- D
- 11- C
- 12- B
- 13- B
- 14- D
- 15- C
- 16- C
- 17- C
- 18- C
- 19- D
- 20- D
- 21- C
- 22- C
- 23- A
- 24- A
- 25- D
- 26- D
- 27- B
- 28- D
- 29- D
- 30- D
- 31- C
- 32- B
- 33- A
- 34- A
- 35- D
- 36- C
- 37- A
- 38- A
- 39- D
- 40- D
- 41- C
- 42- C
- 43- B
- 44- B
- 45- B

- 46- C
- 47- C
- 48- A
- 49- D
- 50- D
- 51- D
- 52- A
- 53- A
- 54- D
- 55- B
- 56- C
- 57- D
- 58- D

2- surgical nutrition

- 1- D
- 2- D
- 3- B
- 4- A
- 5- C
- 6- C
- 7- E
- 8- A
- 9- C
- 10- D
- 11- B
- 12- D
- 13- D
- 14- C
- 15- A
- 16- B
- 17- E

CHAPTER III: INFECTION

1-	B	48-	A
2-	D	49-	D
3-	A	50-	C
4-	D	51-	B
5-	C	52-	A
6-	D	53-	A
7-	C	54-	A
8-	D	55-	B
9-	D		
10-	B		
11-	D		
12-	A		
13-	D		
14-	C		
15-	A		
16-	C		
17-	A		
18-	C		
19-	B		
20-	A		
21-	B		
22-	A		
23-	D		
24-	C		
25-	D		
26-	D		
27-	B		
28-	B		
29-	D		
30-	A		
31-	B		
32-	B		
33-	B		
34-	B		
35-	D		
36-	B		
37-	B		
38-	D		
39-	A		
40-	B		
41-	C		
42-	C		
43-	C		
44-	C		
45-	A		
46-	D		
47-	C		

CHAPTER IV: TRANSPLANTATION

- | | |
|-------|-------|
| 1- B | 49- B |
| 2- A | 50- C |
| 3- A | 51- C |
| 4- D | 52- D |
| 5- C | 53- A |
| 6- A | 54- A |
| 7- A | 55- D |
| 8- D | 56- C |
| 9- D | 57- A |
| 10- B | 58- B |
| 11- A | 59- C |
| 12- D | 60- C |
| 13- D | |
| 14- A | |
| 15- D | |
| 16- A | |
| 17- D | |
| 18- B | |
| 19- B | |
| 20- A | |
| 21- D | |
| 22- A | |
| 23- B | |
| 24- D | |
| 25- A | |
| 26- B | |
| 27- B | |
| 28- D | |
| 29- D | |
| 30- A | |
| 31- C | |
| 32- B | |
| 33- A | |
| 34- C | |
| 35- A | |
| 36- C | |
| 37- C | |
| 38- D | |
| 39- C | |
| 40- A | |
| 41- A | |
| 42- B | |
| 43- D | |
| 44- C | |
| 45- B | |
| 46- C | |
| 47- B | |
| 48- A | |

CHAPTER V: GENERAL ORGANS

1-THE SKIN

1- A	48- B	96- C
2- C	49- A	97- C
3- A	50- A	98- B
4- A	51- A	99- C
5- B	52- D	100-D
6- D	53- A	101-A
7- B	54- D	102-A
8- D	55- A	103-A
9- D	56- A	104-B
10- D	57- B	105-B
11- A	58- D	106-A
12- A	59- B	107-D
13- D	60- B	108-C
14- B	61- D	109-D
15- B	62- A	110-C
16- C	63- A	111-B
17- A	64- D	112-B
18- A	65- C	113-A
19- B	66- A	114-D
20- C	67- D	115-A
21- C	68- B	116-B
22- C	69- C	117-A
23- A	70- C	118-C
24- B	71- A	119-D
25- D	72- D	120-B
26- B	73- C	121-A
27- A	74- B	122-A
28- D	75- A	123-B
29- B	76- D	124-A
30- A	77- A	125-D
31- B	78- B	126-B
32- C	79- A	127-C
33- B	80- D	128-B
34- C	81- B	129-A
35- A	82- C	130-A
36- D	83- D	131-C
37- A	84- C	132-C
38- B	85- B	133-D
39- B	86- B	134-A
40- A	87- D	135-A
41- B	88- C	136-D
42- C	89- C	137-D
43- B	90- D	138-C
44- D	91- A	139-C
45- B	92- A	140-B
46- D	93- C	141-D
47- C	94- A	142-B
	95- A	143-C

144- D
145- C
146- D
147- D
148- D
149- B
150- B
151- D
152- D
153- D
154- A
155- C
156- B
157- C
158- B
159- A
160- D
161- C
162- D
163- D
164- B

2- VASCULAR

1- C
2- D
3- C
4- A
5- D
6- C
7- C
8- A
9- B
10- B
11- D
12- D
13- C
14- B
15- B
16- B
17- C
18- A
19- D
20- B
21- B
22- D
23- C
24- D
25- D
26- D
27- B
28- A
29- A
30- B
31- C
32- D
33- D
34- A
35- C
36- B
37- A
38- C
39- B
40- B
41- A
42- C
43- D
44- A
45- A
46- A

47- D
48- A
49- D
50- C
51- C
52- B
53- A
54- A
55- A
56- A
57- A
58- C
59- B
60- A
61- B
62- C
63- D
64- C
65- B
66- B
67- A
68- A
69- A
70- B
71- B
72- D
73- B
74- D
75- D
76- B
77- B
78- D
79- D
80- A
81- B
82- A
83- A
84- D
85- A
86- A
87- D
88- C
89- A
90- D
91- C
92- A
93- A

94- B
95- B
96- D
97- A
98- D
99- D
100- A
101- B
102- A
103- C
104- A
105- B
106- A
107- C
108- A
109- B
110- D
111- A
112- A
113- A
114- A
115- A
116- B
117- D
118- C
119- B
120- A
121- A
122- C
123- C
124- C
125- B
126- A
127- C
128- A
129- B
130- B
131- A
132- A
133- C
134- A
135- B
136- D
137- C
138- A
139- B
140- D
141- C

142- D
143- C
144- B
145- C
146- D
147- C
148- D
149- B
150- D
151- D
152- D
153- C
154- D
155- D
156- D
157- A
158- D
159- C
160- D
161- C
162- B
163- C
164- C
165- D
166- C
167- D
168- D
169- B
170- D
171- C
172- D
173- B
174- B
175- D
176- C
177- C
178- C
179- D
180- D
181- D
182- D
183- D
184- D
185- A
186- D
187- D
188- B

3- LYMPHATICS

1- A
2- D
3- C
4- C
5- C
6- D
7- D
8- C
9- C
10- B
11- C
12- B
13- C
14- A
15- A
16- A
17- C
18- D
19- D
20- A
21- D
22- C
23- C
24- C
25- C
26- B
27- C
28- C
29- A
30- A
31- D
32- D
33- B
34- D
35- B
36- D
37- D
38- D
39- C
40- C
41- D
42- C
43- B
44- C
45- B
46- A
47- A

- 48- B
- 49- D
- 50- C
- 51- D
- 52- D
- 53- D
- 54- A
- 55- D
- 56- B
- 57- B
- 58- A
- 59- D
- 60- D
- 61- A
- 62- A
- 63- A
- 64- B
- 65- B
- 66- B
- 67- A
- 68- D
- 69- D
- 70- C
- 71- D
- 72- B
- 73- D

4- NERVES

- 1- D
- 2- D
- 3- A
- 4- D
- 5- C
- 6- C
- 7- C
- 8- B
- 9- D
- 10- A
- 11- B
- 12- C
- 13- D
- 14- C
- 15- C
- 16- C
- 17- C
- 18- B
- 19- A
- 20- C
- 21- A

- 22- A
- 23- A
- 24- A
- 25- B
- 26- D
- 27- B
- 28- B
- 29- B
- 30- D
- 31- B
- 32- C
- 33- C
- 34- D
- 35- C
- 36- C
- 37- D
- 38- B
- 39- C
- 40- C
- 41- A
- 42- D
- 43- B
- 44- C
- 45- B
- 46- C
- 47- D
- 48- A
- 49- A
- 50- D
- 51- B
- 52- B
- 53- D
- 54- B
- 55- C
- 56- D
- 57- C
- 58- B
- 59- B

5- THE BONES

- 1- D
- 2- C
- 3- C
- 4- D
- 5- C
- 6- C
- 7- B
- 8- B
- 9- B
- 10- A
- 11- B
- 12- A
- 13- A
- 14- B
- 15- A
- 16- C
- 17- D
- 18- A
- 19- C
- 20- C
- 21- D
- 22- C
- 23- B
- 24- C
- 25- B
- 26- B
- 27- C
- 28- C
- 29- C
- 30- B
- 31- B
- 32- D
- 33- C
- 34- D
- 35- B
- 36- A
- 37- C
- 38- C
- 39- D
- 40- D
- 41- B
- 42- C
- 43- B
- 44- D
- 45- C
- 46- B
- 47- C
- 48- B

49- C	98- B	147- D
50- B	99- C	148- C
51- B	100- D	149- A
52- C	101- D	150- D
53- D	102- A	151- B
54- B	103- A	152- C
55- C	104- D	153- C
56- A	105- A	154- D
57- C	106- B	155- B
58- A	107- D	156- D
59- C	108- B	157- B
60- C	109- A	158- D
61- B	110- D	159- C
62- D	111- A	160- C
63- C	112- B	161- C
64- D	113- B	162- B
65- B	114- A	163- C
66- B	115- C	164- B
67- B	116- D	165- C
68- A	117- C	166- D
69- B	118- D	167- D
70- B	119- D	168- C
71- C	120- C	169- D
72- D	121- C	170- C
73- C	122- B	171- B
74- D	123- D	172- B
75- B	124- C	173- C
76- C	125- D	174- C
77- B	126- B	175- B
78- B	127- D	176- C
79- C	128- B	177- C
80- A	129- A	178- B
81- C	130- B	179- C
82- A	131- B	180- C
83- D	132- D	181- D
84- C	133- C	182- B
85- C	134- D	183- D
86- B	135- C	184- B
87- A	136- A	185- C
88- B	137- D	186- C
89- C	138- A	187- B
90- B	139- D	188- D
91- B	140- B	189- D
92- C	141- B	190- A
93- A	142- D	191- C
94- B	143- D	192- B
95- D	144- D	193- A
96- A	145- B	194- B
97- D	146- C	195- B

196- C	243- D	290- A
197- B	244- C	291- D
198- B	245- B	292- A
199- B	246- C	293- D
200- C	247- C	294- C
201- A	248- B	295- C
202- B	249- D	296- D
203- C	250- A	297- A
204- A	251- B	298- A
205- A	252- B	299- C
206- A	253- D	300- B
207- C	254- D	301- A
208- D	255- C	302- B
209- C	256- B	303- B
210- B	257- C	304- A
211- B	258- D	305- D
212- B	259- B	306- C
213- D	260- D	307- A
214- D	261- D	308- A
215- C	262- D	309- B
216- C	263- C	310- D
217- C	264- A	311- D
218- B	265- D	312- C
219- C	266- A	313- C
220- A	267- A	314- C
221- D	268- D	315- D
222- D	269- D	316- B
223- D	270- D	317- C
224- A	271- D	318- B
225- B	272- B	319- C
226- D	273- C	320- D
227- B	274- D	321- C
228- C	275- A	322- B
229- B	276- C	323- D
230- B	277- C	324- C
231- A	278- A	325- C
232- D	279- B	326- D
233- D	280- B	327- A
234- C	281- D	328- C
235- D	282- C	329- C
236- B	283- A	330- B
237- B	284- D	331- B
238- A	285- D	332- A
239- D	286- C	333- D
240- C	287- D	334- C
241- B	288- D	335- D
242- C	289- B	336- B

337- A
338- D
339- A
340- A
341- C
342- B
343- D
344- D
345- D
346- C
347- C
348- B
349- B
350- A
351- D
352- C
353- B
354- A
355- B
356- B
357- A
358- D
359- C
360- D
361- A
362- A
363- D
364- D
365- B
366- A
367- B
368- C
369- C
370- D
371- A
372- D
373- A
374- D
375- A
376- C
377- B

Chapter VI: The Hand

- | | |
|-----|---|
| 1- | D |
| 2- | C |
| 3- | A |
| 4- | B |
| 5- | D |
| 6- | A |
| 7- | A |
| 8- | B |
| 9- | B |
| 10- | A |
| 11- | B |
| 12- | A |
| 13- | C |
| 14- | A |
| 15- | D |
| 16- | B |
| 17- | D |
| 18- | D |
| 19- | D |
| 20- | B |
| 21- | D |
| 22- | A |
| 23- | D |
| 24- | A |
| 25- | C |
| 26- | B |
| 27- | B |
| 28- | C |
| 29- | C |
| 30- | D |
| 31- | C |

CHAPTER VII: HEAD & NECK

1-NEUROSURGERY

- | | | |
|-------|-------|--------|
| 1- C | 47- C | 95- C |
| 2- C | 48- B | 96- B |
| 3- C | 49- B | 97- C |
| 4- D | 50- C | 98- A |
| 5- B | 51- B | 99- A |
| 6- D | 52- D | 100- C |
| 7- A | 53- A | 101- B |
| 8- C | 54- C | 102- D |
| 9- D | 55- B | 103- B |
| 10- B | 56- C | 104- C |
| 11- C | 57- C | 105- A |
| 12- D | 58- C | 106- C |
| 13- C | 59- D | 107- D |
| 14- B | 60- C | 108- A |
| 15- A | 61- B | 109- A |
| 16- C | 62- A | 110- B |
| 17- C | 63- D | 111- B |
| 18- A | 64- A | 112- B |
| 19- C | 65- B | 113- D |
| 20- A | 66- B | 114- D |
| 21- C | 67- B | 115- A |
| 22- C | 68- C | 116- A |
| 23- A | 69- D | 117- B |
| 24- B | 70- A | 118- B |
| 25- C | 71- D | 119- A |
| 26- B | 72- C | 120- C |
| 27- C | 73- D | 121- A |
| 28- A | 74- B | 122- C |
| 29- A | 75- D | 123- D |
| 30- B | 76- B | 124- D |
| 31- C | 77- A | 125- C |
| 32- B | 78- B | 126- D |
| 33- B | 79- B | 127- D |
| 34- D | 80- D | 128- C |
| 35- B | 81- A | 129- C |
| 36- C | 82- B | 130- D |
| 37- C | 83- D | 131- B |
| 38- C | 84- C | 132- B |
| 39- C | 85- B | 133- C |
| 40- B | 86- C | 134- C |
| 41- B | 87- B | 135- B |
| 42- A | 88- D | 136- D |
| 43- C | 89- B | 137- B |
| 44- D | 90- D | 138- C |
| 45- C | 91- B | 139- C |
| 46- C | 92- D | 140- B |
| | 93- C | 141- B |
| | 94- A | 142- D |

143- B
144- A
145- B
146- C
147- C
148- C
149- D
150- B
151- D
152- C
153- C
154- D
155- B
156- C
157- A
158- D
159- D
160- D
161- D
162- B
163- D
164- D
165- A
166- B
167- D
168- C
169- D
170- B
171- D
172- C
173- D
174- B
175- C
176- A
177- A
178- D
179- C
180- A
181- C
182- A
183- A
184- D
185- C
186- B
187- C
188- C
189- C
190- D

191- D
192- A
193- C
194- A
195- B
196- D
197- C
198- C
199- D
200- A
201- C
202- B
203- C
204- A
205- D
206- B
207- B
208- C
209- B
210- A
211- D
212- B
213- B
214- B
215- D
216- B
217- B
218- D
219- B
220- A
221- D
222- D
223- B
224- D
225- D
226- D
227- A
228- A
229- D
230- C
231- C
232- C
233- B
234- A
235- B
236- C
237- B
238- C
239- B

240- B
241- D
242- D
243- A
244- A
245- B

2- FACE AND LIP

1- D
2- D
3- B
4- C
5- C
6- C
7- A
8- A
9- D
10- D
11- B
12- D
13- C
14- C
15- C
16- C
17- B
18- C
19- C
20- D
21- D
22- B
23- A
24- B
25- B
26- C
27- C
28- A
29- B
30- D
31- D
32- C

3-SALIVARY GLANDS

- 1- C
- 2- B
- 3- A
- 4- D
- 5- C
- 6- B
- 7- C
- 8- D
- 9- B
- 10- D
- 11- D
- 12- D
- 13- A
- 14- B
- 15- B
- 16- D
- 17- C
- 18- A
- 19- B
- 20- B
- 21- C
- 22- B
- 23- D
- 24- D
- 25- C
- 26- A
- 27- D
- 28- C
- 29- D
- 30- B
- 31- D
- 32- D
- 33- D
- 34- A
- 35- C
- 36- B
- 37- D
- 38- B
- 39- A
- 40- C
- 41- A
- 42- C
- 43- A
- 44- C
- 45- B
- 46- D
- 47- A

- 48- C
- 49- B
- 50- B
- 51- C
- 52- B
- 53- D
- 54- A
- 55- B
- 56- B
- 57- D
- 58- D
- 59- C
- 60- A
- 61- D
- 62- D

4- THYROID

- 1- A
- 2- D
- 3- D
- 4- A
- 5- D
- 6- B
- 7- C
- 8- C
- 9- C
- 10- A
- 11- B
- 12- D
- 13- D
- 14- C
- 15- C
- 16- B
- 17- C
- 18- C
- 19- D
- 20- B
- 21- A
- 22- C
- 23- B
- 24- D
- 25- B
- 26- D
- 27- D
- 28- A
- 29- D
- 30- C
- 31- C

- 32- D
- 33- C
- 34- D
- 35- B
- 36- A
- 37- C
- 38- B
- 39- C
- 40- C
- 41- D
- 42- D
- 43- B
- 44- A
- 45- D
- 46- B
- 47- C
- 48- B
- 49- D
- 50- C
- 51- D
- 52- B
- 53- C
- 54- D
- 55- A
- 56- D
- 57- B
- 58- D
- 59- C
- 60- C
- 61- D
- 62- C
- 63- C
- 64- A
- 65- B
- 66- B
- 67- B
- 68- C
- 69- D
- 70- C
- 71- D
- 72- C
- 73- B
- 74- D
- 75- B
- 76- B
- 77- D
- 78- A
- 79- A
- 80- A

81- B
82- C
83- C
84- C
85- D
86- D
87- D
88- D
89- D
90- D
91- B
92- D
93- A
94- A
95- D
96- D
97- D
98- D
99- B
100- D
101- A
102- D
103- C
104- A
105- A
106- A
107- C
108- D
109- D
110- C
111- D
112- C
113- D
114- D
115- D
116- D
117- D
118- D
119- D
120- B
121- A
122- C
123- A
124- D
125- C
126- A
127- C
128- C

129- A
130- C
131- B
132- B
133- D
134- C
135- B
136- A
137- B
138- C
139- B
140- C
141- D
142- B
143- A
144- A
145- D
146- C
147- A
148- D
149- D
150- B
151- D
152- D
153- D
154- A
155- D
156- C
157- A
158- D
159- B
160- C

5- PARATHYROID

1- A
2- D
3- D
4- D
5- C
6- C
7- C
8- C
9- D
10- C
11- D
12- A
13- C

14- C
15- A
16- D
17- A
18- D
19- D
20- D
21- A
22- C
23- D
24- B

6- OTHER ENDOCRINE ORGANS

1- C
2- A
3- D
4- A
5- D
6- B
7- D
8- B
9- B
10- D
11- A
12- D
13- A
14- C
15- C
16- A
17- D
18- A
19- B
20- B
21- B
22- C
23- C
24- D
25- A
26- D
27- A
28- C
29- B
30- B
31- D
32- B

33- C
34- D
35- D
36- C
37- B
38- A
39- B
40- D
41- C
42- C
43- A
44- D
45- A
46- C
47- C
48- B
49- D
50- C
51- A
52- D
53- C
54- D

CHAPTER VIII: THE BREAST

1- A	47- A	93- D
2- B	48- C	94- D
3- D	49- C	95- D
4- D	50- B	96- D
5- D	51- A	97- B
6- C	52- C	98- A
7- D	53- B	99- A
8- C	54- D	100- D
9- C	55- B	101- B
10- B	56- C	102- B
11- B	57- D	103- A
12- C	58- A	104- A
13- D	59- A	105- D
14- B	60- B	106- D
15- A	61- A	107- C
16- A	62- C	108- A
17- D	63- C	109- B
18- D	64- C	110- C
19- D	65- B	111- B
20- D	66- D	112- D
21- B	67- C	113- B
22- B	68- C	114- B
23- A	69- C	115- D
24- C	70- D	116- C
25- B	71- B	117- D
26- C	72- C	118- B
27- A	73- D	119- A
28- C	74- D	120- C
29- D	75- A	121- B
30- C	76- A	122- A
31- A	77- C	123- D
32- A	78- A	124- B
33- B	79- D	125- A
34- A	80- C	126- A
35- A	81- D	127- A
36- A	82- D	128- A
37- A	83- A	129- A
38- A	84- A	130- A
39- D	85- D	131- C
40- C	86- A	132- D
41- B	87- C	133- B
42- B	88- B	134- A
43- C	89- A	135- D
44- B	90- A	136- B
45- C	91- B	137- A
46- B	92- B	138- B

139- B
140- C
141- C
142- D
143- A
144- D
145- C
146- D
147- A
148- B
149- D
150- A
151- C
152- A
153- B
154- A
155- C
156- D
157- D
158- D
159- A
160- A
161- D
162- B
163- B
164- C
165- B
166- B
167- C
168- D
169- B
170- B
171- A
172- D
173- A
174- D
175- D
176- A
177- D
178- A
179- C
180- B
181- C
182- A
183- B
184- B

185- C
186- D
187- B
188- A
189- D
190- C
191- B
192- A
193- D
194- B
195- C
196- C
197- C
198- B
199- B
200- B
201- A
202- A
203- B
204- C
205- B
206- C
207- D
208- C
209- C
210- B
211- C
212- B
213- B
214- D
215- C
216- D
217- C
218- B
219- A
220- D
221- C
222- B
223- B
224- D
225- C
226- C
227- D
228- C
229- C
230- D
231- A

232- C
233- D
234- D
235- D
236- A
237- C
238- A
239- D
240- A
241- D
242- C
243- C
244- C
245- D
246- C
247- A
248- D
249- D
250- C
251- D
252- A
253- B
254- B
255- B
256- D
257- D
258- A
259- A
260- C